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ABSTRACT

Grades or ages: Grade 10. SUBJECT MATTER: World geography. ORGANIZATION AND PHYSICAL APPEARANCE: The guide is divided into 16 units covering various aspects of geography. Each unit is in list form. The guide is offset printed and edition bound with a paper cover. OBJECTIVES AND ACTIVITIES: Each unit begins with a list of about five concepts to be taught. Suggested activities are then listed under each concept. Activities consist mainly of analysis of maps and discussion. Suggested times are indicated for each unit. INSTRUCTIONAL MATERIALS: A list of different types of maps and other materials needed for the course is included in an introductory section. In addition, each unit contains a list of references for teachers and students. The guide itself is illustrated with numerous charts and maps. STUDENT ASSESSMENT: No mention. (RT)

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WORLD GEOGRAPHY

A Guide For Teachers

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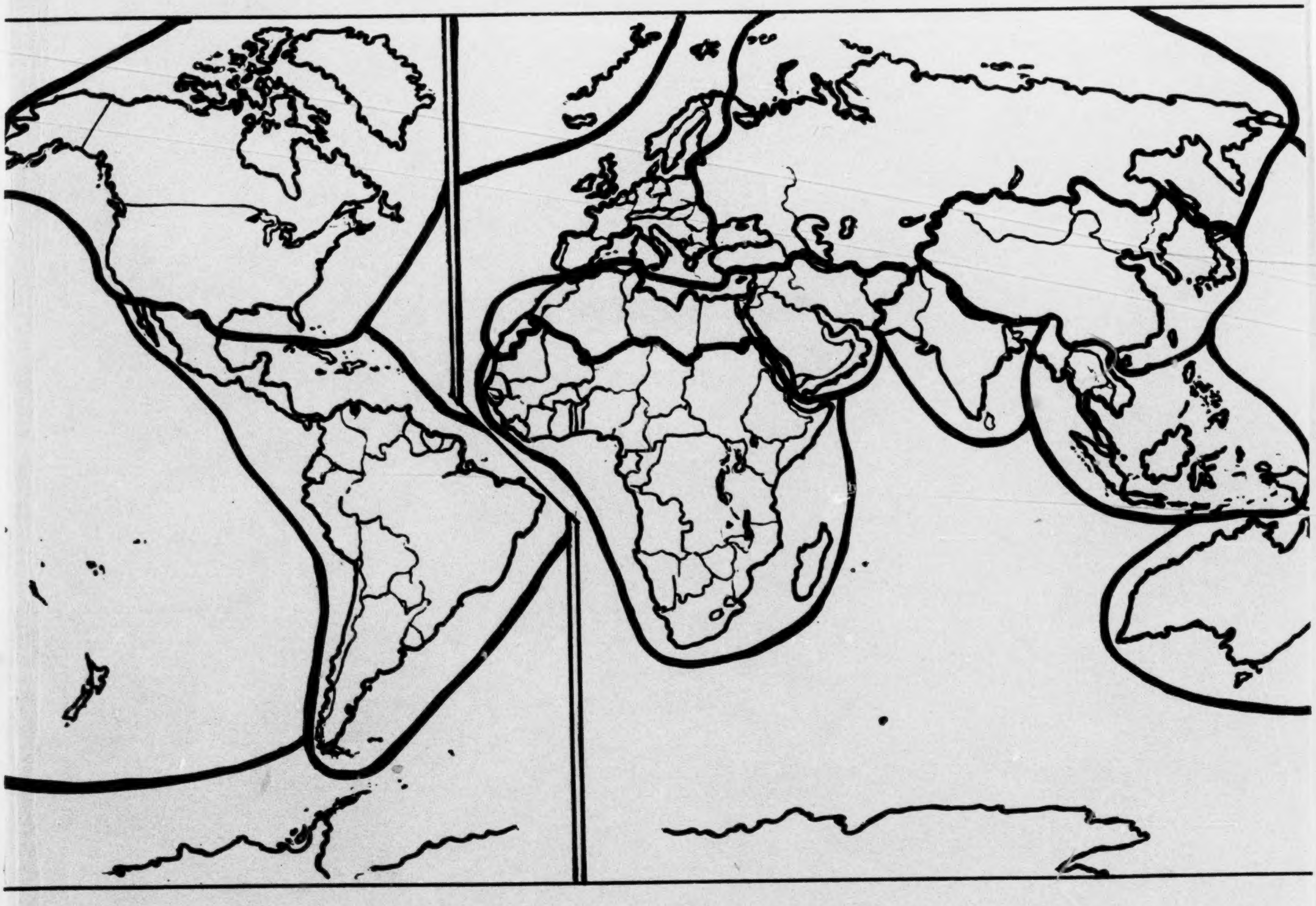

HUBERT WHEELER

Commissioner of Education

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FOREWORD

The need for world geographic literacy today is obvious. The study of geography is recognized as one of the oldest fields of knowledge as well as the most neglected subject in the secondary school curriculum. Historically, geography has gone through periods of emphasis and decline at state and national levels. For example, in 1940, 80% of the schools in Missouri offered a course in geography; 1965, 20%; 1967, 40%. The High School Geography Project, sponsored by the Association of American Geographers and funded by the National Science Foundation is responsible in part for a resurgence of interest in this field at state and national levels.

After studying the recommendations of the National Project, conferring with members of the Missouri Association of Geographers, and evaluating the empirical information from school administrators and teachers of the social studies, the Division of Instruction, State Department of Education, recommended that a statewide committee, composed of university and college geographers and public school teachers of geography, be invited to further study the trends in this field and to develop a course guide for teachers. The committee was appointed in 1966. This publication represents the results of the Committee's deliberation.

The Committee is to be commended for the fulfillment of its charge and its untiring efforts in this study and development of this guide. The special knowledge applied to this cooperative task by the individual members of the Committee is appreciated.

The course appears to be functional and practical and is in keeping with national trends in this field. School administrators and teachers are encouraged to consider the Committee's recommendations when planning for a revision of the social studies program at local district level. This guide also represents tangible evidence of the Department's responsibility to give leadership in the improvement of instruction in public schools of the State.

Hubert Wheeler
Commissioner of Education

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POINT OF VIEW

"Why" Rationale

Structure of Geography

Objectives

Organization

Approach

Facilities and Equipment

Teacher Preparation

POINT OF VIEW

"Why" Rationale

Historically, the decline and reemphasis of geography in Missouri has been similar to the National pattern. In 1940, eighty percent of the school districts in Missouri offered a course in geography — 1945-70%; 1960-35%; 1965-20%; 1967-40%. The High School Geography Project initiated in 1961, sponsored by the Association of American Geographers and funded by the National Science Foundation, coupled with international affairs involving the United States, is perhaps responsible for a reemphasis on geography. At the present time, about 200 school districts in the State report offering a course in geography.

Geography at the secondary level, tenth grade recommended, prepares the setting for world history recommended for eleventh grade offering. Without this geographic background, the student has little or no conception of the stage on which man plays his economic, sociological, political, and historical role. It is recognized by authorities in this field that geography is a basic prerequisite to the understanding of other social science disciplines, and to the understanding of national and international events.

After reviewing the research studies available regarding this trend, conferring with members of the Missouri Council for Geographic Education, and after evaluating empirical information from Missouri school administrators, the Division of Instruction, Curriculum Section, recommended to the Commissioner of Education that a statewide committee be appointed to further study the problem and to develop a course guide in geography at the secondary level.

It is interesting to note here that the statewide committee supports a "why" approach to geography — "Why" it is where it is, rather than the traditional "what" and "where" approach. In final analysis, it was assumed that there is a definite need to eliminate geographic illiteracy of the present-day high school graduates. It is recognized that geography is one of the oldest fields of knowledge, the study of the earth as the home of man. It undertakes to describe and explain the differences, similarities, and interrelationships that exist from place to place on the earth. As a result, geography must necessarily be concerned with the life layer which consists of the earth's crust, the atmosphere, and the surface area. Geography also attempts to interpret geographic distributions in terms of underlying processes and endeavors to show how these distributions are related.

The world is much too varied and complicated to be readily treated as a whole unit; therefore, it becomes necessary to divide it into parts which can be studied effectively. There are many ways in which geographic knowledge can be divided. One way is to delimit specific elements and study them as they occur around the world. Another way is to mark off specific regions or areas and study the way various elements of geography combine to give the place a unique personality.

Regions and political divisions differ greatly in man's organization and use of the natural endowment of land — topography, climate, soils, natural vegetation, and minerals. Man organizes and uses his domain through activities such as agriculture, mining, transportation, manufacturing, and political organization. Geographers not only describe, explain differences, similarities, and interrelationships from place to place over the earth, but also pay particular attention to the world pattern of political and economic organization and attempt to discern the distinctive role of each state or cultural region in the world order.

THE STRUCTURE OF GEOGRAPHY*

All earthly phenomena exist in time and space: they have a chronology and a chorology. History's principal domain is the former and geography's the latter. They complement each other. Together they provide a context which serves to interrelate all human knowledge whether physical, biotic, or societal (economic, social, political).

In the physical order, the meteorologist focuses his attention upon weather or, in more generalized form, climate. He attempts to understand the genetic aspects of meteorological phenomena (origins, processes) or what might be called "the physics of the atmosphere" and he may even study the distributions of certain generalized climate types. He pursues these interests, however, more to understand the nature of weather and climate than to understand the times and places in which these meteorological phenomena occur. He would doubtless know that the abundant precipitation of equatorial areas is related to solar radiation and the cooling of warm, moist air masses by convection. He might even note that these relationships have profound influence upon the mineral-deficient, acidic, red and yellow soils generally associated with them. But the human occupance of the tropical rainy areas, for example, would probably be of peripheral concern to him since such investigation is farther removed from his dominant interest — the nature of the tropical rainy climate type.

In the biotic order, the botanist is primarily concerned with the inherent characteristics (forms, life processes) of plants of given species and may even be drawn to investigate the circumstances of the environment which determine the distribution of plant life on the face of the earth. As in the foregoing example, however, his analysis is directed by a specific intellectual disposition — to inquire into the nature of plants. Accordingly, whereas he will probably demonstrate that the existence of tall, broadleaf evergreens of many species in the equatorial areas of the world is related to the warm and humid permissive climate which is to be found there, he will be less concerned with the greater complexity of non-plant phenomena which characterize the tropical rain forest. As a practitioner of a systematic science, the botanist defines his field by a particular phenomenon — plants. His interest in the chronological and chorological aspects of plant study is tangential to his core concern.

Similarly, in the societal order, the economist might focus upon the nature of production and consumption of goods in native subsistence economics of the tropical rain forest; the sociologist upon the roles of management and labor in tropical rain forest plantation agriculture; and the political scientist upon the implications of tribalism for the emergence of viable political states in the same area. As in the physical and biotic orders, these specialists bring exhaustive and thorough knowledge to their inquiries.

As a borrower of much of this first-hand knowledge, it would seem that the historian of, say, "Twentieth Century Liberia" would have little of consequence to contribute. Without the historian, however, who would fill the need for a temporal science? Who would accept as his mandate, his **raison d'etre,** the illumination of the complex interrelations among those salient elements which in their totality connote "Twentieth Century Liberia," the understanding of which would contribute to an informed citizenry's comprehension of issues involved in world affairs?

Likewise geography. Like history, it is not defined by subject matter but by its method or the way it looks at things. Historical science studies the association of diverse phenomena in particular periods of time or in development through time. Geography, as a chorological or spatial science, strives for an architecture of description in segments of space or areas. It too attempts to associate diverse phenomena: it is a synthetic areal science which utilizes the ecological aspects of all the systematic sciences — physical, biotic, or societal. Thus, to continue the example already begun, the geographer would continue his investigation of "Twentieth Century Liberia" by borrowing as necessary from the several sciences. He would depict a tropical rain forest area within which poor circulation (transportation and communications) enhanced the social cleavage between indigenous Africans in the bush and the descendants of emancipated American Negro slaves who sought to subjugate their less-civilized brethren. He would find that a marginal subsistence type of slash-and-burn agriculture on quickly-impoverished soils was transformed by infusions of capital and managerial skill to produce significant earnings of foreign exchange via commercial plantings of natural rubber, the source of which requires the tropical rainy climate regime for its optimum growth and healing. Finally, he would discover that the indigenous people were induced to leave the social security of tribal subsistence life in the bush and become wage laborers on a Western island in a dissimilar cultural sea. By illuminating these areal relations, Liberia is set off from other areas with which it can be contrasted and compared. This — explaining **areal differentiation** — is the quest of the geographer. Space, the chorology of phenomena, is his principal concern.

The foregoing lacks sharp distinctions between the three kinds of science: systematic, chronological, and chorological. Hopefully, this stems less from the imprecision of the writer than from the fundamental unity of all knowledge and what has been termed "the right of scientific trespass." Quite obviously, systematic scientific inquiry might uncover significantly interconnected phenomena about developments through time or in space. Thus, an economist will investigate the period of the great depression of 1929 and an anthropologist will relate habitats to certain socio-economic systems. Similarly, historians and geographers at times inquire into the genetic aspects of the phenomena they study, as in the case of the changing occupance of the Great Plains. Although studies overlap, however, the focus of concern is different in each case.

OVERVIEW

Today's world is a complexity of physical, biotic, and societal elements or facts, qualitatively and perhaps quantitatively defined, and exhibiting variety in space as well as variation in time.

It is characterized by different kinds of land forms and varied amounts of rainfall: it has diverse types of forest and dissimilar crop yields; it exhibits contrasting traffic movement and population aggregations of all sorts and sizes. In his investigations, the geographer is concerned with the interconnections between **sets** of these elements or facts (physical and/or biotic and/or societal) which characterize specific places at specific times. His purpose is to locate **geographic facts** as they are assembled as sets or distributions in earth space and then by **comparison,** to explain how such **geographic distributions** are **formally** interrelated by **areal association** or **functionally** interrelated by **spatial interaction.** And since places so characterized obtain a certain distinctiveness of **form** or **function,** he calls them **regions.** Regionalizing or generalizing about the relationships between and among sets of geographic facts in places (space) is the keystone of the geographic arch.

PRELIMINARY NOTIONS

At the outset, the geographer's course of inquiry will be **topical** or **regional** depending upon his emphasis; his conclusions will be determined by the scope or **scale** of his investigation; and his method will involve **mapping, photo-interpretation, statistical techniques,** and **expository reports.**

TOPICAL AND REGIONAL GEOGRAPHY

Like practitioners in history and the other social sciences, the geographer has pursued his research interests **topically** or **regionally.** In the first instance, he analyzes the interconnections of a certain phenomenon or type of phenomenon commonly in its world-wide distribution in order to assess the modifications of process that differentiate areas. In the latter case, he focuses upon a particular locale and explores the interlinked occurrences to better understand the uniqueness of that area. Thus, for example, the economic geographer as a topical specialist might be engaged in the world-wide study of rail transportation, generalize about the character of certain rail patterns, and subsequently demonstrate how these different patterns co-vary with other phenomena to confer a certain distinctiveness upon the places in which they occur: Soviet Siberia demonstrates a tentacle-like rail pattern which in turn is influenced by a great expanse of sparsely populated and underproductive land severely beset with physical problems (permafrost, pingos, windblown sand, annual flooding, etc.) which inhibit easy and inexpensive railroad construction; the Congo (Leopoldville)* has an interrupted rail net which reflects the need for portages for high-bulk, low-value commodities which are moved most efficiently on a river system which, as nature would have it, is obstructed with rapids and waterfalls. On the other hand, the regional geographer would restrict the scope of his vision to, say, Soviet Siberia and inquire into those sets of geographic facts which make it a unique place on the earth's surface. He would borrow the generalizations of the economic geographer on its railroad pattern and use the explanations for such occurrences that the systematic specialist has brought to light. He would, however, probably delve into such matters as the discontinuous settlements of the tundra through which no railroad courses; the canal construction of Soviet Central Asia and river transport to the Soviet Arctic, both of which supplement rail circulation; the planting of marginal lands to foodgrains for reasons quite beyond their proximity to existing rail lines; the emergence of Baykalia as an immense producer of cheap electricity based on falling water and a potential center of chemicals production based upon, not rail, but pipeline transmission of oil from the Volga-Urals district. Or, to take the Congo (Leopoldville)* as an example, the regional geographer might consider, in addition to the nature of its fragmented rail pattern and associated export production, prudent slashing and burning of forest cover in a climate zone where soils become rapidly impoverished once the vegetative cover is removed; the artificial political boundary which separates Bakongo tribesmen from their kin in the Congo (Brazzaville) and which weakens effective central authority; and the high infant mortality rate of pygmy peoples in the eastern Congo, based upon isolation from modern medicine and a physical environment which assists the spread of disease.

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*Now Kinshasa

We might say that if geography studies phenomena in places to differentiate one area from another, the topical geographer begins with phenomena and the regional geographer with places. But all phenomena occur in places; and the areal differentiation of places presupposes the existence of varied phenomena within them. Therefore, topical and regional geography differ not in kind but in emphasis. They both involve analysis and synthesis. They are inextricably intertwined in all comprehensive geographic study.

SCALE

The conclusions which the geographer may infer from his inquiry will be determined by its areal scope or **scale**. Theoretically, the scope may range from a point on the globe, mathematically defined, to the whole of the earth's surface. Realistically, however, the scope of the area subjected to inquiry must be **comprehensible;** and to the extent that it is defined in terms of the interests of the researcher, it must be **meaningful.** All aspects of the earth's varied surface are not simultaneously comprehensible and an indefinite number of points is not meaningful.

All scientific inquiry is based upon the assumption that the plethora of detail evident in today's world has an inner logic and can therefore be studied and understood. The geographer assumes that there is a certain **order in nature** and that **man rationally organizes himself in space**. In order to cut through the welter of detail that he finds in segments of earth space which are larger than points, he generalizes not unlike other scientists. On a large scale map (which approaches the 1:1 ratio of reality), he is able to locate many sets of geographic facts and relationships between or among them about which he might generalize. However, as the map scale decreases (or further departs from the 1:1 scale of reality), some of the assemblages of geographic facts (which might have been quite prominent on the large scale map) dwindle to insignificance. The richness of detail on the large scale map must necessarily be reduced as the area represented on the large scale map assumes a small portion of a larger segment of earth space portrayed on the small scale map. Hence, in large scale studies, generalizations tend to be more numerous but particular. In small scale studies, generalizations tend to be fewer but broader.

However, the foregoing should not be construed to mean that large scale studies have greater utility than small scale investigations. While he loses the particularity of large scale studies in small scale inquiries, the geographer acquires through the latter a meaningful sweep which characterizes broader segments of earth space. A house is an assemblage of facilities. To the prospective owner, however, detailed knowledge about each facility might not be so significant as knowledge of the community in which it is located. So too with the building blocks of reality and the superstructure of which they form a part.

TOOLS

The map is an important tool, but not the only one, for geographic investigation. After deciding whether he will concentrate on the geographic distributions of a particular phenomenon in different areal contexts or on several phenomena in one study area, and after he has selected a scale suitable to the inquiry at hand, the geographer analyzes a given area or areas by means of first-or second-hand observation (field work, photo-interpretation, written reports) and he prepares therefrom either tabular or graphic portrayals or both.

The simple table or bar graph can reflect the location of specific physical, biotic, and societal elements, qualitatively and perhaps quantitatively defined, and occurring in time. For example, the geographer might record for a given number of counties in Iowa (location) the proportion of acreage devoted to corn production (quality and quantity of a phenomenon) in a certain year (time). This constitutes a tabular or graphic array of a set of geographic facts or portrayals of a geographic distribution. Conceivably, he could prepare a table or bar graph of another geographic distribution, say, of cattle production in proportion to total agricultural production for the same counties in Iowa and for the same year as above. If the investigator then prepared a scatter diagram consisting of a graph on one axis of which was marked increasing values of the one variable, proportionate acreage devoted to corn, and on the other axis, increasing values of the second variable, cattle production in proportion to total agricultural production, he would be able to plot a series of points which, if grouped around a straight or curved line, would establish visually and subsequently, statistically, that somehow these two variables may be related. However, the simple fact that the two distributions are **accordant** does not demonstrate that they are causally related. It is incumbent upon the investigator to show that the accordance can be interpreted in terms of systematically related processes operating through time.

A more distinctively geographic portrayal of assemblages of geographic facts is the map. It too is graphic but besides having the propensity for revealing the location of qualitatively and perhaps quantitatively defined facts in time (as can the table or bar graph), it supplies something more. It shows **relative location** by means of which **distance** and **shape** relationships can be seen more easily. For example geographic distributions have a certain **dispersion** or **spread** (over a distance) and a certain **pattern** or **arrangement** (or shape) of the geographic facts which constitute them. The table and bar graph have no way of showing how the unit areas (the counties of Iowa, for example) are situated in relation to one another. The use of tables or bar graphs which perhaps consist of a random listing of counties, therefore, would not reveal whether there is one focal area of intensive corn-cattle production or several. Since productivity seldom conforms to county lines, the magnitude (shape) of the area showing the greatest co-variation cannot be known. The user of the table or bar graph would have data on the distribution of a certain set of geographic facts but they would be for necessarily discrete areas. Lost to him are all the suggestions for further inquiry which would emanate from the joining of these discrete segments one to the other so that a continuity, a certain gradation in intensity of corn-cattle production, could be established. If the shape of the most intensive corn-cattle producing area was known, for example, the geographer could be guided by his knowledge of the counties or parts of counties so conjoined to investigate other geographic distributions on those conjoined areas in his quest to determine other processes which relate to the occurrence there of significant corn-cattle production. On the other hand, if the geographer could establish the fact that intervening earth space (distance) separated several focal areas of production, this would suggest that there exists a certain organization of areas of intensive corn-cattle production with others not similarly characterized, each having complementary functions and tied over distance by a certain pattern of circulation. His exploration of such a hypothecated functional design has the potentiality for further illuminating why and how intensive corn-cattle production has come into prominence in certain areas.

The foregoing, however, should not be understood to imply that the map is always more significant a tool in geographic research than statistical techniques. For example, soils may be classified as geographic distributions by similarity of characteristics. Their form and structure, however, are extraordinarily complex. If the geographer decided to explore the nature of soils in the Iowa counties of intensive corn-cattle production, for example, the generalizations that he must necessarily make to portray geographic distributions might exclude the more significant differences of soils which would be favorable or unfavorable for optimum corn yields. What is the texture of the soil? Is the water table high? How deep is the topsoil? Is there an impervious layer underlying the topsoil and if so at what depth? What is the slope of the terrain? A plethora of maps would presumably be necessary to illuminate the interconnections between soils and significant corn-cattle economics. At best, however, it would appear that soil and corn-cattle distributions would only be vaguely similar: soils are more than the sums of their characteristics. Geographers have used simple and multiple regression and correlation to good advantage in such problem situations although such techniques are probably too sophisticated for average elementary and secondary school students.

AREAL ASSOCIATION

We have hitherto paid attention to those elements of today's world which can be thought of as **geographic facts**. We have seen how **scale** affects the generalizations which can be made about sets of geographic facts or **geographic distributions**. We have touched upon the method by which geographical distributions are areally related. It seems to be worthwhile to resume at this point by initiating commentary on another meat animal producer, the Humid Pampa of Argentina, while we continue to pay heed to the foregoing Iowa example.

The distributional patterns that the geographer singles out from earth space are a function of his research interests. Thus he might inquire into cattle production around the world as a question of cause-effect to be answered. He decides to focus his attention on Iowa and the Humid Pampa, among other areas. He separates the geographic facts which seem to be relevant to the question, establishes distributional patterns for each of them, and attempts to show accordance through map or statistical analysis. Thus he might plot data on cattle and fodder production for each areal context and exclude data on motor vehicle deaths and wine production. If the distributions of cattle and fodder production co-vary areally and the geographer can relate them via the operations of systematic processes, he concludes that one distribution helps to explain the other so correlated. This is an **areal association**. He concludes that the generalized accordant boundaries delineate certain distinctive segments of earth space (in Iowa and Argentina) because of two areally cohesive characteristics (cattle and fodder production) which, on the scale of his observation, pervade each whole. These areas of earth space, which display throughout a greater or lesser intensity of these associated traits (or what the geographer calls "relative homogeneity"), are labeled **regions**. And since they are defined by **formal** features, his cattle-producing regions of Iowa and the Humid Pampa are termed **uniform** regions.

Having done this, the topical geographer **compares** his uniform regions and notices that corn is associated with Iowa cattle production whereas alfalfa predominates in the Humid Pampa. Further analysis sheds light on this difference. The distribution of large landholdings in the Humid Pampa, unlike its Iowa counterpart, permits extensive rather than intensive agricultural methods. Corn, eminently suited to the hot and humid summers of Iowa, is unsurpassed in per acre fodder yield. In the Humid Pampa, on the other hand, a year-long mild climate permits the easy growth and over-wintering of deep-rooted, drought-resistant alfalfa which thrives on the rich, deep, well-drained, fine grained, loessial soils of the region.

Further analysis proceeds apace. Each region has certain societal elements (transportation nets, farmsteads) which are deemed to be relevant to the crop-meat animal association that served to define each. Roads and rail lines course Iowa, bringing in lean range cattle and bringing out finished steers. Roads are notably absent in the Argentine context but railroads carry fattened cattle directly to Buenos Aires dressers of beef. The processes of meat-animal production explain the different roles played by the two regions: on Iowa farms (which are not so large as to prejudice a family livestock operation and yet not so small as to make, say, the more labor intensive production of hogs alone feasible), it is more efficient to fatten lean range cattle in transit to easterly markets rather than to breed steers or to ship fodder to the Western range country. In Argentina, the enormous estates and lush, nutritious pasturage obviate the need for a similar response. The lack of roads in the Humid Pampa transportation pattern is largely influenced by the dearth of high-bulk, low-value road grading materials in the pebble-free, deep, loess.

If the topical geographer were to presume that the character of the farmstead had implications for making his uniform region more comprehensible and meaningful, he might portray the distributions of animal shelters. He would find that Iowa evidences numerous large barns for the sheltering of hay and cattle but that the Humid Pampa has no similar cultural pattern. In the Midwest, the cold winters require animal shelters (and often the old horse barn has had new tenants) but the mild Pampa winter permits the over-wintering of cattle on the open range.

The reader will note that the procedures of areal analysis and comparison have illuminated features which meat animal producing regions share in common as well as those that differentiate them. Their determination permits the geographer to establish broad regional requisites for this industry and these have implications for further investigation. For example, the geographer might consider the changes in localized associations that might improve the quality or quantity of production; if these prospective changes are transferable from one region to another; and how these changes might alter the stability of a given undertaking.

If, on the other hand, the geographer's research interests are motivated less by the desire to compare geographic distributions for a particular phenomenon in different parts of the world but more by the inclination to look at many sets of geographic facts for a special segment of earth space, say the Humid Pampa, he would attempt the greatest possible synthesis of features as analyzed in the foregoing or as contributed by other systematic specialists. He would, no doubt, study the growth of an urban industrial force which stemmed from the natural increase of European immigrant agriculturists and which found political, economic, and social attractions in Buenos Aires. Similarly, the constant rise in wheat and corn farming which has transformed the Humid Pampa into a granary as well as a beef producer would also probably attract him as would the nature of, say, the truck farming zone outside the primate city. The regional geographer who focuses on Iowa might look at the current productive association in its evolution through time, assess the bases for average farm size and perhaps even try to determine why tenancy characterizes so great a proportion of farm occupancy. *

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*Dr. Peter Grecco, "The Structure of Geography," *Social Science Consortium, Publication No. 102*. Lafayette, Indiana: Purdue University.

OBJECTIVES

The objectives of a course in geography in the high school fall into two major categories: general education and academic.

General Education:

There are certain general objectives of the public school system. Geography, as part of the curriculum of the high school, has to be concerned with these same objectives. In general, these objectives involve the preparation of the student for logical decision making as part of an informed citizenry. Another more specific objective involves the vocational preparation of the student. Geography can make meaningful contribution toward the realization of both of these objectives. Many of the problems facing society contain elements which geographic knowledge can render understandable. This might include such things as problems in zoning, natural resource conservation, air and water pollution, and world political relations.

In terms of vocational training, there is an ever increasing demand for professional geographers in business, education and government. Also, the skills and knowledge of geography are becoming recognized as valuable adjuncts in the training of people entering other vocational fields. For example, map reading is a necessary tool for occupations ranging from navigator to city planning. Furthermore, geography contributes to the educational objectives of enrichment.

Academic:

Geography is an old discipline which has accumulated a coherent, logical body of knowledge. This knowledge, as discussed earlier in this introduction, involves the areal or spatial aspects of the earth and man. Some of the more important specific academic objectives can be summarized as follows:

POINT OF VIEW

Understand the significance of location and the uniqueness of different places on the earth.

Understand the significance of the natural environment as a setting for human activity.

Recognize and understand the pattern formed by the distributions of physical and cultural phenomena.

Develop the idea of the interdependence of areas.

Develop skills in the use of geographic tools such as:

- **The intelligent use of maps, globes, ground pictures, aerial photographs, terms, models, and graphs.**
- **The use and application of elementary statistics in geography.**
- **The use of field trips to develop skills in the observation and collection of geographic data.**
- **The effective use of library materials.**
- **The selection, use, and geographic interpretation of current events.**

Show that natural resources have at times been unwisely used; but that through the understanding of certain geographic principles and the application of technology, resources can be restored, reused, and/or improved.

As a summary of the academic objectives it is hoped that a course in geography will help the student to think geographically so that he will be able to perceive and identify the geographical elements of the world around him.

WORLD GEOGRAPHY A GUIDE FOR TEACHERS

ORGANIZATION

The organization of the instructional program is both topical and regional. Topics such as climate, mineral resources, and economic activities are related to the distribution of man on the earth without particular attention to political units. The topical plan is used to introduce the course — first nine weeks. The regional plan is introduced by a unit entitled DELINEATION OF WORLD REGIONS, followed by ten regional units which constitute the major part of the course. This phase of the program emphasizes the relationship between the natural geographic factors and man's use of these factors within a political unit. The course is concluded with two application units: GEOGRAPHY IN CONSERVATION and GEOGRAPHY IN PLANNING.

Suggested time, in weeks, to be spent on each unit is intended to serve only as a guide to teachers in planning the total program and is in no way intended to place limitations on the teacher's implementations of the course.

The variances in the structure of the units are readily discernible. The content is described in both narrative and outline form. The suggested learning activities may relate specifically to the content or to the topic or region in general. These differences do not represent a dichotomic situation among the committee members but rather are intended to reflect flexibility in planning and implementation.

The common intent is to give the teachers all the help possible in implementing the program — concepts to be emphasized, content information, and suggested learning activities.

APPROACH

The curriculum committee feels that the approach to the units in this guide represents a departure from the traditional courses of study in geography. It is recognized that an inventory of geographic facts would neither make the desired impact upon the student nor would most of the facts long remain in the arsenal of knowledge acquired by the student. In view of this assumption, the committee decided to concentrate on basic concepts concerning each of the geographic topics and regions included in this guide. The concepts in each unit are those which the committee feels are the most significant geographic aspects concerning the subject of the unit. It is hoped that an intensive study of these few selected concepts will make such an impression upon the student that he will retain these ideas long after having completed the course. Obviously these selected concepts do not cover all the ramifications of the various topics and regions; nevertheless, the decision had to be made as to what is most significant and in what form the geographic knowledge will be best understood and retained by the student. The point of retention of basic ideas seemed to be very crucial to the committee's point of view. The basic goal was to develop this course in a manner conducive to helping the student understand man as an active element on the earth — economically, sociologically, politically, and geographically.

The suggested content material and learning activities are designed specifically to illuminate the concepts. The purpose of this guide is to serve as a guideline for teachers regardless of teaching materials utilized, not to replace textbooks. Any recent geography text, 1965-1968 editions, will contain much of the same material; therefore, the concepts in this guide will simply give the teacher a minimum number of focal points around which to implement the units.

The nature of geography requires an additional technique in the teaching process not normally used in the social sciences. This is the laboratory type of approach wherein the student learns the techniques of reading maps as well as some of the very basic elements in presenting data on maps.

Since the spatial aspects of various phenomena occur around the student, whether in urban or non-urban areas, field trips are a very valuable teaching technique in geography. Unless the student gains some insights into the areal patterns of things in his immediate environment, he will not achieve one of the most important goals of geographic education.

Geography lends itself to useful activities for the slow learner. Since maps are a basic part of geography, almost any work with maps can be fruitful. A slow learner could be given blank outline maps and the data of occurrence for some phenomena such as the amount of wheat grown in the states of the United States. He could then be aided in setting up color categories for this phenomena and color the states on the outline maps according to these categories. Hopefully, the time spent in coloring these and other maps of things related to wheat would help him gain some understanding of distribution, where wheat is grown and why.

There are several levels of sophistication involved in the study of the distribution of things on the earth. One of the highest levels involves the problems encountered in trying to measure both the distribution of phenomena and the interrelationships of phenomena. For the advanced student this could involve the use of various statistical techniques, resulting in the construction of isoline maps showing the distribution and intensity of geographic phenomena. The construction and interpretation of certain kinds of arithmetic and logarithmic graphs to demonstrate the change of geographic phenomena in time and space could prove very beneficial to the advanced student.

FACILITIES AND EQUIPMENT

The primary tool of geography is the globe or its representation on flat paper, the map. A course in geography would be very limited in effectiveness if maps were not used.

POINT OF VIEW

A geography student obviously needs a textbook that has numerous good maps or an atlas. But maps in books and atlases are rather small scale and consequently can only show general information. The student also needs the opportunity to study large scale maps, like the U. S. Geographical Survey topographic maps, in order to gain an understanding of the specific relationships of phenomena shown on the map. In order to study maps in books, atlases and large scale maps, the student needs to be able to lay these books and maps out flat so he can look at them. To do this a **geography classroom should be equipped with tables rather than arm chairs.** A geography classroom should also have several large bulletin boards or similar type material on the wall, or stands on which sheets of maps can be attached. Ideally, large scale sheet maps should be stored flat or folded only once or twice and therefore cabinets or storage shelves are necessary.

The following is a list of materials that are essential, if a basic understanding of geography is to be attained:

CLASSROOM MATERIALS

Teaching Aids:

Large Globe 16" - 20"

Small 6" globes, enough for one for each two students

Selection of U. S. G. S. topographic maps:

1. of surrounding area — one per student.
2. of selected topographic features such as glacial forms, river features, desert features, etc.

Expendable blank outline maps of world, continents, United States, Missouri, and of individual states.

Atlases — enough for one for each two students

Wall maps — of world, continents and United States, including a Mercator and North Polar projection.

Types of topics for maps: physical
political
climate
soils
vegetation
population distribution
crops
natural resources
world trade
industrial areas

Storage and other facilities:

- cabinets for flat maps
- wall map storage cabinets
- tables
- wall attachments for hanging maps
- bulletin boards

SUGGESTED PREPARATION OF TEACHERS

Geography teachers at the secondary level should, as soon as it is feasible, upgrade their academic training in the field. A minimum of 15 semester hours should be required. This cannot be accomplished immediately, but those concerned should set a time when all teachers of geography should meet this minimum requirement. The 15 hours should encompass both systematic and regional courses at the college level.

SUGGESTED CURRICULA

REQUIRED:

World Regional Geography
Economic Geography
Physical Geography

POINT OF VIEW

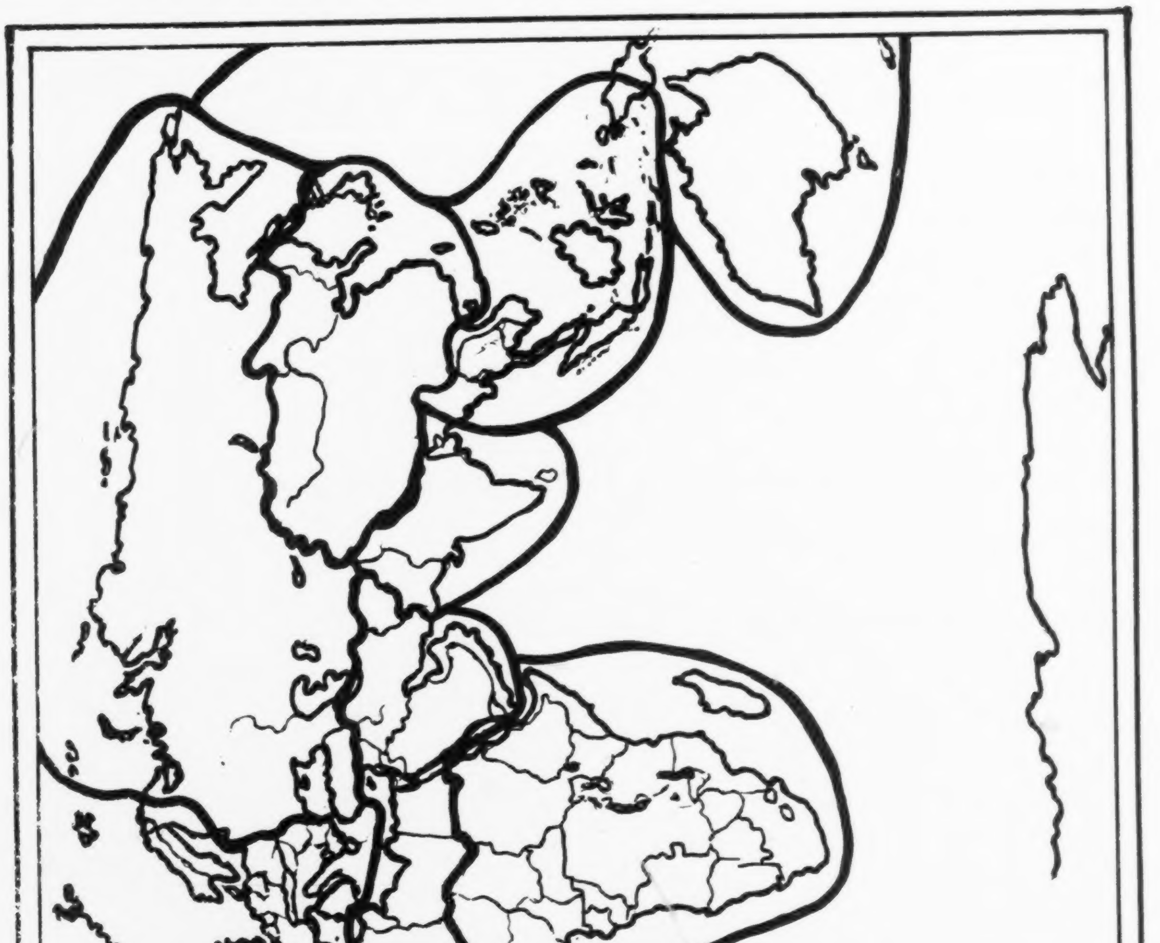
ELECTIVES:

Topical Courses:
- Political Geography
- Urban Geography
- Historical Geography

Regional Courses:
- Asia
- Soviet Union
- Africa
- Anglo-America
- Latin America
- Europe
- Pacific World

The teacher preparing to teach geography in the secondary schools of Missouri should keep in mind that this is a **suggested** curricula. The committee recommends that provisions should ultimately be made for state certification of a teaching field in geography.

INSTRUCTIONAL PROGRAM



UNIT 1

DISTRIBUTION AND CHARACTERISTICS OF WORLD POPULATION

WORLD GEOGRAPHY A GUIDE FOR TEACHERS

UNIT I

DISTRIBUTION AND CHARACTERISTICS OF WORLD POPULATION

Suggested Time: Three Weeks

RATIONALE

Where people are, why they are there, and the resulting implication of the distributional pattern of the world's population are of fundamental concern to geographers. Sometime during 1968, the total population of the earth passed 3.5 billion and by the year 2000 there will be double that number. An obvious understatement is that this rapid increase poses many problems to the world. The insights and point of view of geography are valuable in understanding certain elements of the problems, and can supply knowledge to people and governments trying to cope with these problems.

CONCEPTS

I. The population of the world is unevenly distributed by continent and within individual political units.

II. There are significant differences in the density of population over the world within the population clusters as well as the population voids.

III. The population of the world has been growing at an accelerating rate although the rate of increase varies from one part of the world to another.

IV. The people of the world live in various kinds of settlements from one part of the world to another and within individual political units; however, an ever greater absolute number, as well as relative percentage of people, are living in urbanized areas.

Concept I

The population of the world is unevenly distributed by continent and within individual political units.

Content

The content for this concept should be concerned with the following points:

Total population of the world is approximately 3.5 billion as of 1967. Ninety percent of the world's population live on 10% of the land area of the world. This could be illustrated by an examination of a wall map showing the population distribution of the world. A dot map would be preferable. An explanation of dot map construction should precede its study. The location of a dot does not necessarily mean that the number of people represented by a dot are present at that point. The dot may be at the center of that number of people.

The populated areas of the world can be divided into four population clusters:

*East Asia	30% of the world's population
China (Mainland)	800 million
Japan	100 million
Korea (North)	13 million
Korea (South)	31 million

South Asia	25% of the world's population
India	500 million
Pakistan	120 million
Ceylon	12 million

Europe	25% of the world's population

Describes a triangle, the base line extending from northern Great Britain to Gibralter and extending to a peak in USSR at approximately the Ural Mountains.

USSR	234 million (most of whom are in Europe)

50 to 60 million:

West Germany	57 million
United Kingdom	52 million
Italy	54 million
France	50 million

30+ million:

Spain	32 million
Poland	32 million

Between 15 and 20 million:

Yugoslavia	20 million
Rumania	19 million
East Germany	17 million

Northeast U. S. and Southeast Canada	8% of the world's population

Canada	20 million
United States	200 million

Nearly one-half of the United States population resides in the states east of the Mississippi River and north of the Ohio River.

* **World Population Data Sheet.** Population Reference Bureau, 1968.

At this point, it should be valuable to list and locate countries with the largest population in each cluster. This could also serve as a location exercise. After this, there should be a brief discussion of the possible reasons for this distribution.

It should be emphasized that succeeding units will delve more deeply into the causal factors related to the population distribution of the world.

There are other smaller population clusters:

Nile River Valley
Southeast Brazil (Rio de Janerio and Sao Paulo)
Western United States; i.e., California, etc.
Nigeria, Africa
Indonesia (Java), Bali

There are large areas of the world which are nearly empty — the so-called population voids. A brief discussion concerning what appears to be the primary limiting factor in each void and the possibility for future settlement could follow.

Geographic Area	**Apparent Limiting Factors**
Northern North America	cold
Western United States	deserts, mountains
Amazon Basin	hot, wet
North Africa	desert
Congo River Basin	hot and wet
Southwest Africa	desert
Saudi Arabia	desert
Scandinavia	mountains, cold
Northern Asia (Siberia)	cold
Central Asia	deserts, mountains
Australia	deserts

Learning Activities

Make a bibliography of sources of population data in the library.

UNIT I DISTRIBUTION AND CHARACTERISTICS OF WORLD POPULATION

Construct visual devices to show either relative percentages of the world population in various continents or the absolute population.

pie chart

bar graph

a world map where size of country on map is same relative size as its population

Color countries on map according to size of population using categories such as over 100 million, 50-100 million, 10-50 million, less than 10 million. Compare map like this with dot map and list relative advantages.

Compile a list of the various ways (atlases, books, etc.) to show population distribution.

Make a rank listing of the countries of the world according to their population.

Make a scatter diagram where the vertical axis is the population and the horizontal axis is the rank.

Area and Population Statistics for Selected Countries

	Area Sq. Miles	Population (Millions)	Crude Birth Rate	Crude Death Rate	Calories per day
United States	3,615,211	197	19.4	9.4	3,120
Argentina	1,072,070	23	21.7	8.1	2,660
Australia	2,971,083	12	20.6	9.0	3,160
Belgium	11,781	10	16.5	12.5	3,080
Bolivia	424,163	4	18.5	4.7	NA
Canada	3,851,812	20	21.4	7.5	3,020
Ceylon	25,332	12	32.6	8.7	1,920
China (Mainland)	3,691,512	750	34.0	11.0	NA
China (Taiwan)	13,885	13	32.7	5.5	2,380
France	211,207	50	18.1	10.7	2,940
West Germany	95,743	58	17.9	11.2	2,940
India	1,176,153	494	20.3	8.6	1,940
Japan	142,726	99	18.6	7.1	2,280
Kenya	224,960	10	52.0	NA	NA
Kuwait	6,178	.5	NA	NA	NA
Mauritania	419,230	.8	36.0	8.6	NA
Nicaragua	53,938	2	40.6	7.2	NA
Pakistan	365,529	121	44.5	16.5	2,220
Sierra Leone	27,699	2	NA	NA	NA
Switzerland	15,941	6	19.2	9.1	3,150
U.S.S.R.	3,649,512	23	18.5	7.3	NA
United Kingdom	94,220	55	18.4	11.5	3,280
Venezuela	352,143	9	43.4	7.2	2,340
WORLD	57,295,000	3,300			

Source: Population Reference Bureau, World Population Data Sheet — 1966 & Statistical Abstract of the United States, Vital Statistics and Net Food Supply.

NA — Not available

Concept II

There are significant differences in the density of population over the world within the population clusters as well as the population voids.

Content

The content material for this concept should be concerned with (1) the meaning and calculation of density measures, and (2) the density patterns in various parts of the world.

Meaning of various density measures — need to discuss what these measures can tell and what they cannot.

- Simple or arithmetic density

  Formula: $\frac{\text{population}}{\text{area}}$

- Population per arable land or people per unit of food producing land; define arable

  Formula: $\frac{\text{population}}{\text{area of arable land}}$

- Agricultural workers per farm land as a measure of the intensity of land use

  Formula: $\frac{\text{agricultural workers}}{\text{arable land}}$

- Measures which show how much land there is per person

  1. $\frac{\text{area}}{\text{population}}$
  2. $\frac{\text{arable land}}{\text{population}}$

World density patterns: one can either list and compare the densities of some representative countries or have students figure the densities for countries. Compare these densities to determine if they are related to the level of living. For example, Japan and United Kingdom both have high simple densities and arable densities but both are well fed. Why is this so? Possibly, because they both manufacture items to trade for food. Japan is nearly self-sufficient in food while India, with a smaller arable density, is not. Japan's agriculture is more efficient.

Discuss the fact that densities vary within individual countries — river valleys may be dense and mountains very sparse.

Many people live in cities where densities are high — have the students calculate the density of their home towns. Calculate the density of a typical apartment complex raised to a square mile equivalent or a typical suburban housing development.

Learning Activities

Calculate the densities of the various countries of the world and separate them into categories and construct a map using different colors for different density categories and compare this map to the absolute population map.

Make a rank listing of the countries of the world according to their densities.
Compare this listing with the ranking by population to see if the lists are similar or reversed, or if there is no relation. **Write** an essay on why the lists should or should not necessarily be similar.

Resource Material

Land Use

Country	Arable Land and Land Under Permanent Crops	Permanent Meadows and Pastures	Forested Land	Unusual but Potentially Productive	Built-on Area, Wasteland and Other
	%	%	%	%	%
United States	19	27	32	3	19
Argentina	10	40	35		15
Australia	4	58	4		33
Belgium	31	24	19		26
Bolivia	2	10	42		46
Canada	4	2	44		50
Ceylon	23	2	54		20
China (mainland)	11	18	7		64
China (Taiwan)	24		54	3	19
France	38	23	21	7	8
West Germany	34	23	28		15
India	49	4	17	5	23
Japan	16	2	68		14
Kenya	2	6	2		90
Kuwait					100
Mauritania	1		10		89
Nicaragua	5		43		52
Pakistan	27		3		70
Sierra Leone	50	30	4	1	15
Switzerland	10	42	23		25
U. S. S. R.	10	16	39		35
United Kingdom	30	50	7		13
Venezuela	2	18	20		60
World	10	18	30		42

*Source — **Production Yearbook.** United Nations, 1965.

Concept III

The population of the world has been growing at an accelerating rate although the rate of increase varies from one part of the world to another.

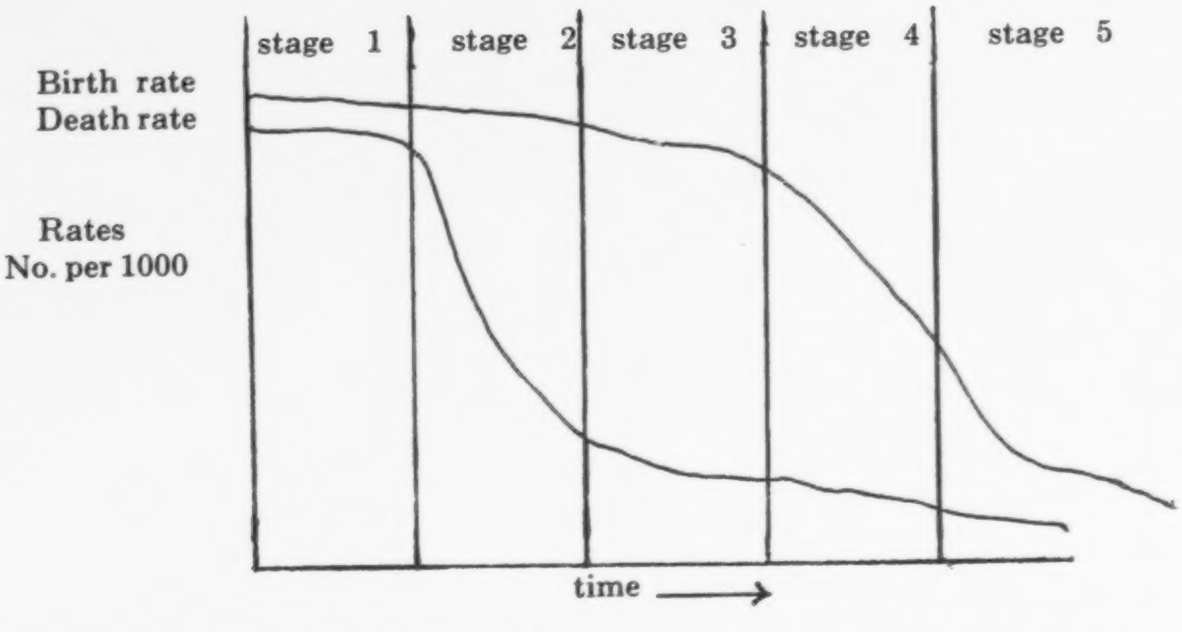
Content

Discuss the growth of world population, especially since the Industrial Revolution. Perhaps the discussion could include the number of years it has taken for the population to double throughout the past. The students might chart this increase and discuss how one arrives at a percentage increase figure.

Discuss the reason for the increase in the rate of population growth.

Natural increase — definition — relations of birth rates and death

Discuss the transition theory involving the idea that the death rate drops first, followed later by a drop in the birth rate as a country modernizes. The theoretical pattern and the various stages can be charted as follows:



Stage 1. Birth rates and death rates high — population stable or growing slowly.

2. Birth rates high, death rates falling — population growth rate increasing.

3. Birth rates high, death rates low — population growth rate greatest — the so-called "demographic gap."

4. Birth rate falling, death rates low — population growth rate slowing.

5. Birth rates and death rates low — population stable or growing more slowly.

Theoretically, this is what should happen to nations as they move from an underdeveloped state to an industrial level. This is what Europe experienced as it industrialized. The differences between underdeveloped nations today and Europe when it experienced this transition, should be pointed out. Such factors as:

It took Europe a longer period of time to go through the transition.

Europe had a lower density at the beginning of the transition than do underdeveloped nations today.

Death rates in Europe fell slower because health and sanitation methods were learned slowly. Life saving techniques are now known and are applied to underdeveloped nations very quickly.

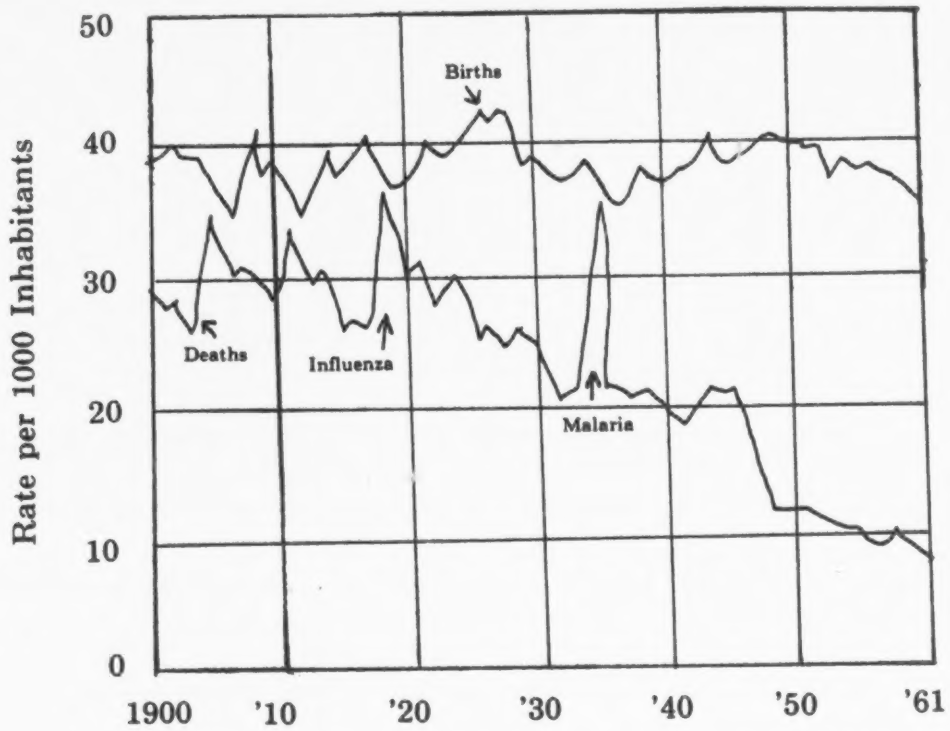
In Europe birth rates apparently came down because living conditions were getting better and people wanted to limit the size of families to better their economic lot. In underdeveloped countries today, there is little evidence that things are getting better and there is not much incentive to limit the size of their families since more children can be an insurance policy for old age.

Discuss the problems associated with rapid growth:

Food supply

Large numbers of young; not productive workers but need to be provided for. This diverts capital and investment from growth industries.

VITAL RATES—Ceylon, 1900-1961



Transition theory as applied to an underdeveloped country.

Learning Activities

Construct pie charts showing the relative share of the world's population by continent at various times during the past, the present, and estimates of the future.

Figure the natural increase for various countries (differences between the birth rate and death rate).

Concept IV

The people of the world live in various kinds of settlements from one part of the world to another and within individual political units; however, an ever greater absolute number, as well as relative percentage of people, are living in urbanized areas.

Content

Define the various types of settlement patterns.

Dispersed agricultural settlements — each farmer lives on his own land such as in the United States and the United Kingdom.

Agglomerated agricultural settlements — farmers live in villages and commute to fields. Ask why they would do this. For protection? For companionship? In parts of Great Plains of the United States, some farmers are moving to towns to be able to enjoy town amenities.

Cities and urban areas — kinds of urban areas:

Cities as central places dispersing goods and services to the surrounding area.

Cities at break in transportation points — seaports.

Specialized function — resorts, mining.

Combinations of the above.

Discuss the process of urbanization.

This discussion will concern the following two points:

Urbanization really began with the Industrial Revolution.

The two processes of urbanization and industrialization are intimately related.

There have been cities since the fourth millenium B. C. but they involved only a small percentage of the population. Urbanization accelerated with the Industrial Revolution. Since then the percentage of people living in urban areas has steadily increased. As the percentage living in urban areas increases, the rate of urbanization will have to start slowing down as is happening in most of the industrial nations.

At the present time, in the underdeveloped nation, urbanization has become unhinged from the process of industrialization.

In the current industrial nations the two processes were identical but in underdeveloped nations both are not happening concurrently. The reason for urbanization seems to be different in the two areas. In industrial nations, urbanization was a result of the farm-to-city migration, thereby relieving the surplus of agricultural workers on the land. In underdeveloped nations, the percentage living in urban areas is increasing because birth rates are frequently higher and death rates lower in the cities, thereby causing the cities to grow faster than the countryside. Also, the cities cannot absorb the surplus population from the country as industry attracts them to the cities.

The increasing tempo of urbanization in the world can best be shown on a semi-logarithmic graph. A semi-logarithmic graph is a valuable tool when one wishes to study the rates of change of any phenomenon through time and would be a valuable technique for the students to know. The time periods on the horizontal axis are evenly spaced but the vertical axis, on a semi-logarithmic graph on which the values are plotted, is constructed mathematically in such a way that a constant rate of change will appear as a straight line and the types of changes will each have a distinctive curve.

Behavior and Interpretation of Lines

A straight line trending upward is a constant rate of increase.

A downward trending straight line is a constant rate of decrease.

A line that curves upward indicates an increasing rate of increase.

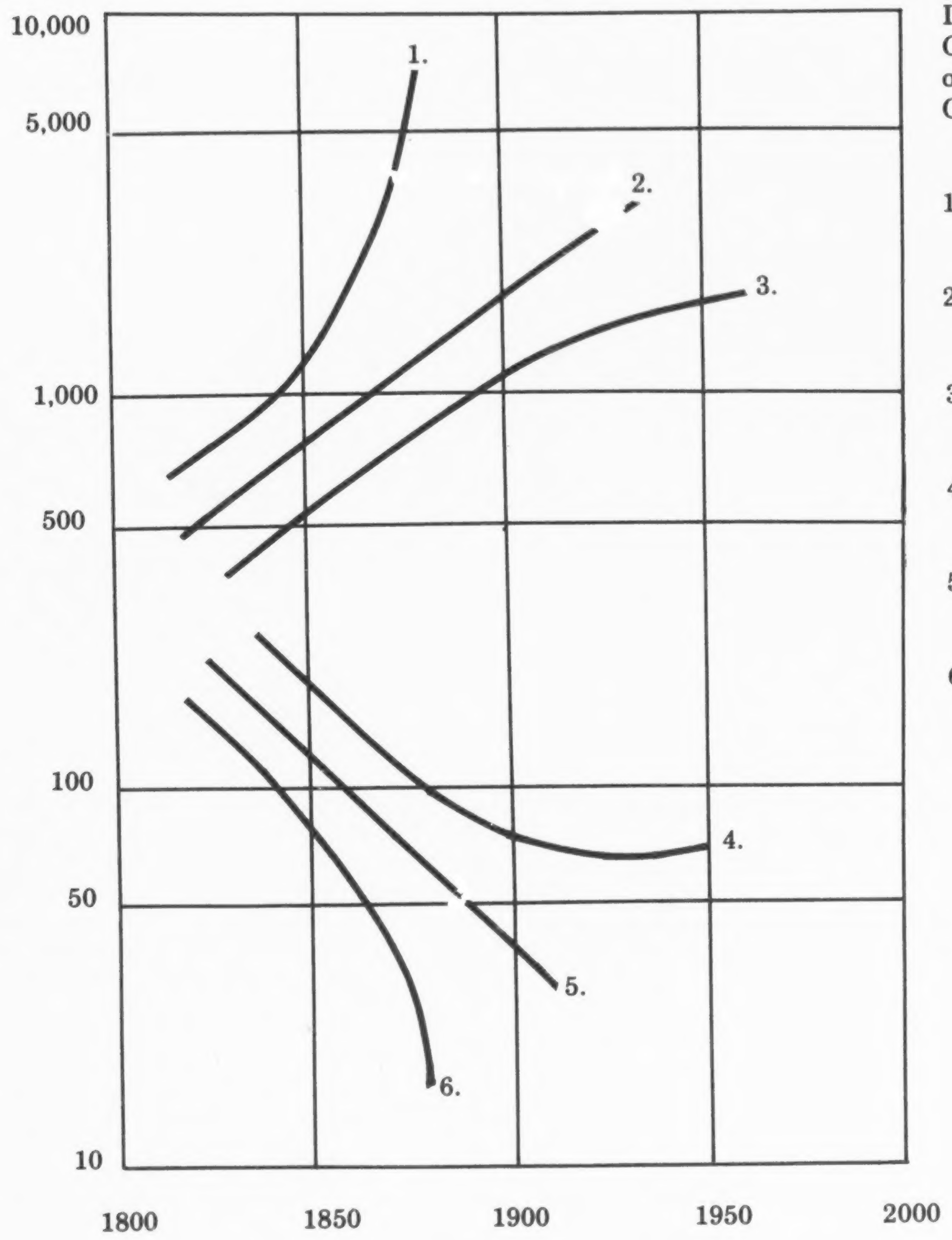
A line that curves downward indicates an increasing rate of decrease.

A line that trends upward but is leveling off indicates a decreasing rate of increase.

A line that trends downward but is leveling off indicates a decreasing rate of decrease.

Thus it is possible to tell at a glance the rate of change of a phenomenon through time. If values for two different phenomena are plotted, the rates of change can be compared very easily. In comparing two lines, the one that is the more steeply inclined is the one which is changing at the most rapid rate.

Unit I Concept IV

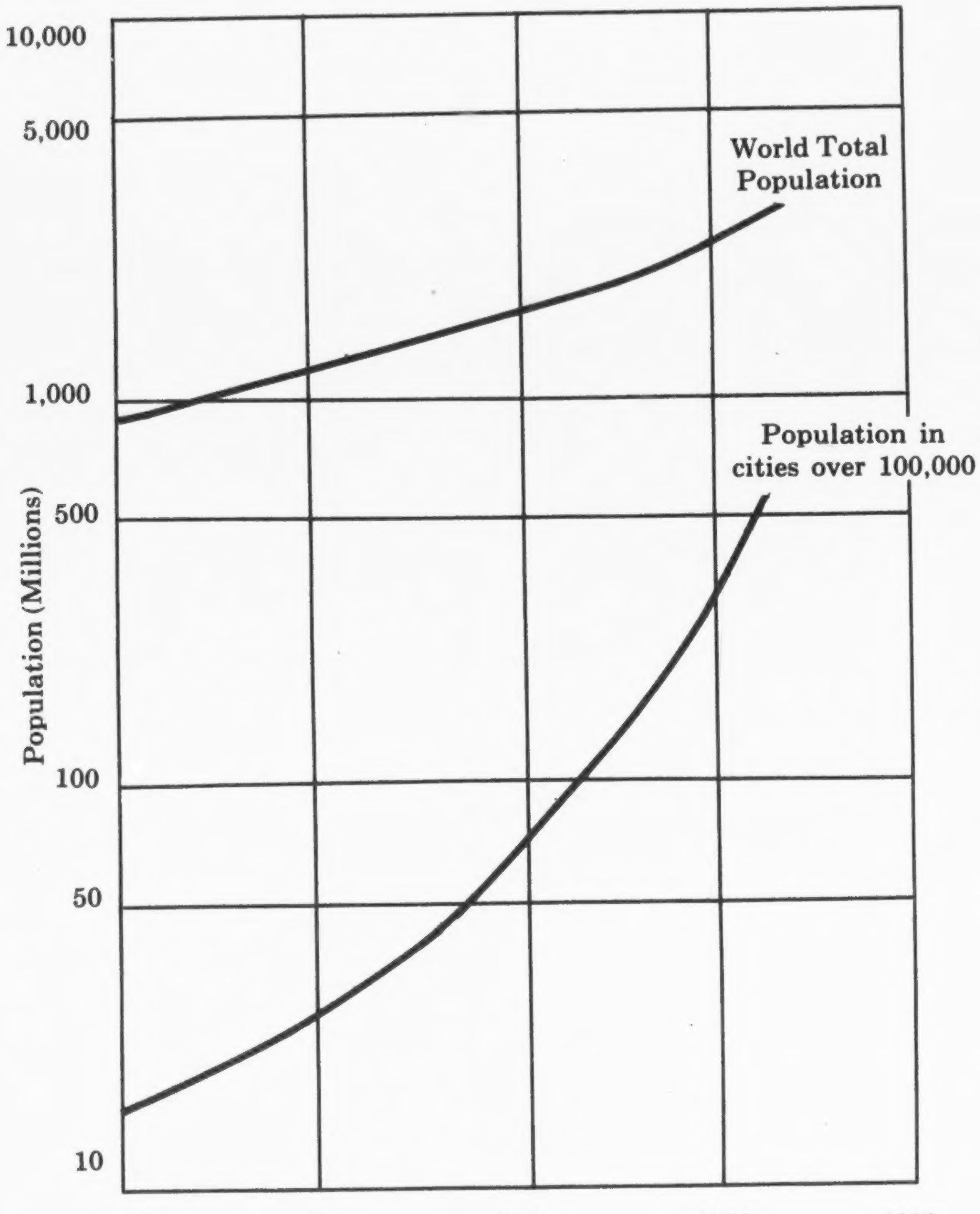


Illustrations of Types of Changes as Shown by Lines on a Semi-Logarithmic Graph.

1. **Increasing at an increasing rate.**
2. **Increasing at a constant rate.**
3. **Increasing at a decreasing rate.**
4. **Decreasing at a decreasing rate.**
5. **Decreasing at a constant rate.**
6. **Decreasing at an increasing rate.**

On the accompanying graph, both the total world population and the population in cities over 100,000 are plotted on a semi-logarithmic graph. From this it can be seen that the rate of world population growth is **increasing** and apparently at an **increasing** rate. The population in cities over 100,000 is, of course, less; but the rate of **increase** in these cities is **increasing** at an **increasing** rate and is **increasing** at a faster rate than world population. Remember the slopes of the lines indicate **rates of change.**

Concept IV



Rates of Change as shown on a Semi-Logarithmic Graph

Learning Activities

Report on the problem of defining what is an urban area. Is it based on size or function?

Obtain topographic maps or Missouri Department of Highway County maps. These maps show the individual homesteads. Study the distribution of farm houses to see if there is any pattern — will exemplify the dispersed pattern of farms in the United States.

Make a list of the basic types of commercial activities likely to be carried on in a small rural village.

Assume that a certain farmer, say in Italy, has a total of 4 acres of land that is broken up into 15 separate parcels, varying in size from 1/10 acre to 1 acre at distances varying from 1/5 of a mile to 1½ miles away from his house in the village. Assume that he walks to each of these parcels of land at least twice a week. **Calculate** how much time the farmer spends a week commuting to and from his fields. Students could make a hypothetical map of this land and list other disadvantages of this scattered, fragmented type of farming.

Calculate the percentage of people living in cities over 100,000 for the countries included on the accompanying table.

Urban Statistics for Selected Countries

Country	% In Cities Over 20,000	% Urban (1960)	Population in Cities Over 100,000	Number of Cities Over 100,000
United States	52	70	86,150,000	177
Argentina	48	NA	8,565,000	20
Australia	57	82	4,371,000	8
Belgium	32	50	1,130,000	6
Bolivia	19	NA	407,000	2
Canada	35	70	8,500,000	17
Ceylon	11	14	511,000	1
China (Mainland)	10	NA	59,448,000	103
China (Taiwan)	24	NA	3,564,000	11
France	30	63	9,618,000	39
West Germany	44	NA	19,313,000	56
India	12	18	38,481,000	109
Japan	43	60	44,072,000	115
Kenya	4	6	494,000	2
Kuwait	47	NA	100,000	1
Mauritania	0	11	0	0
Nicaragua	15	42	250,000	1
Pakistan	8	14	5,730,000	16
Sierra Leone	3	NA	128,000	1
Switzerland	29	51	1,270,000	6
U. S. S. R.	32	48	63,191,000	188
United Kingdom	67	NA	16,319,000	67
Venezuela	32	NA	3,030,000	7

Source: **Atlas of Economic Development** 1961, Norton Ginsbert (Column 1, figures for middle 1950's)
Demographic Yearbook 1963 & 1964, United Nations (% urban by country's own definition — ranges from 500 to 5,000)
Demographic Yearbook 1965, United Nations (In most cases means the city proper — Column 3 figures for early 1960's)
Column 3 figures for early 1960's - (NA)

(NA: Not available)

UNIT I DISTRIBUTION AND CHARACTERISTICS OF WORLD POPULATION

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Nov. 1966	"Truth and Consequences in a New Era"
Aug. 1966	"Boom Babies Come of Age"
Feb. 1966	"Malthus in Retrospect"
Oct. 1965	"World Population Projection"
May 1965	"Needed: A Population Policy for the World"
Dec. 1964	"World Food Crisis — 1964: Manna Bread or Stones?"
Feb. 1964	"U. S. Population Growth"
Feb. 1962	"World Population Dilemma" (especially good because it has a chart comparing the contrast over time of Europe and the Underdeveloped Nations' Birth Rates and Death Rates)
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UNIT II

THE EARTH'S RESOURCES IN RELATION TO WORLD POPULATION

UNIT II

THE EARTH'S RESOURCES IN RELATION TO WORLD POPULATION

Suggested Time: Three Weeks

RATIONALE

The elements comprising the natural environment of the earth (e.g., landforms, climate, soil, minerals, water, and native plants and animals) have been both assets and liabilities in man's settlement of the earth. These elements are potential resources which man can use as his technology develops to obtain his fundamental wants of food, shelter, and clothing. Indeed, one of the most persistent trends during human history has been man's increasing utilization of the earth's resources. Associated with this greater use of the earth's resources has been a related increase in the production of material goods which has caused man's relationship with the natural environment to become less direct. Today, notwithstanding man's insulated houses, his irrigated agriculture, and engineering marvels such as the skyscraper and steel bridge which so characterize our modern civilization, man still has not escaped the influence of the natural environment.

The earth's resources on which man is so dependent are distributed unevenly over the earth's surface. A knowledge of variations from place to place in the quantity and quality of the earth's resources, coupled with an awareness of how different cultures use them, provides a helpful basis for understanding the distribution of world population.

CONCEPTS

I. The earth's resources (landforms, climate, vegetation, soil, water, and minerals) are closely interrelated.

II. The complexity of any one of the earth's resources (e.g., landforms, climate, soil, minerals, water, wild plants and animals) can be made more understandable by dividing a particular resource into a relatively few classes.

III. Man's appraisal of the earth's resources varies according to his cultural heritage and technology.

IV. The advancement of our civilization to its present level is correlated with improved technology and greater utilization of the earth's resources, especially the mineral resources.

V. Knowledge of the gross distributional pattern of the earth's resources, plus an awareness of the interrelationships between man and the earth's resources, will provide valuable insights for understanding man's distribution on the planet Earth.

UNIT II THE EARTH'S RESOURCES IN RELATION TO WORLD POPULATION

SUGGESTIONS FOR PROCEDURE

Materials in this chapter have been developed as an introduction to the study of geographic regions. Resources of the earth — landforms, climate, vegetation, soil, water and minerals — are related to the distribution of the world's population. An awareness of these relationships will enable the student to understand some of the reasons for differences in population concentration on the earth's surface. This does not mean that the "why" of population distribution can be explained solely in terms of physical factors.

Economic factors, cultural factors, and historical factors are also important considerations. Indeed, in some places, it is difficult to know which factor has been most influential.

The advantage of an early treatment of the relationships between population distribution and the earth's resources is that it saves repetition in later treatment of individual regions.

ESTABLISH VALUE FOR USE OF SECONDARY MATERIALS IN STUDYING GEOGRAPHY

Globe - Use this first because it is the closest approximation to the earth. Thus it would be but one step removed from reality.

Maps - Indicate reasons why globes alone are unsatisfactory. Study map reading to develop an awareness of point, line and area symbols, both quantitative and qualitative. Develop technique of recording information and then drawing conclusions.

Statistics - Indicate the availability of data but also the limitations in using data classification of others. Develop unit in which data are analyzed and hypotheses formulated. Provide sets of climatic data (monthly temperatures and precipitation) for selected stations. Plot location of stations on a map. Have students suggest possible reasons for differences with respect to: (a) January temperature, (b) annual temperature range, and (c) annual precipitation. Work to develop a list of the climatic controls which include: (1) latitude—earth soil patterns, (2) elevation, (3) landforms, (4) prevailing winds, (5) ocean currents, (6) land-water relationships, and (7) cyclonic storms.

Photographs - Indicate source for getting a "picture" of different types of vegetation. Plot the location of selected vegetation photographs on a map to get an appreciation of vegetation categories that appear on a map of vegetation.

Concept I

The earth's resources (landforms, climate, vegetation, soil, water, and minerals) are closely interrelated.

Content

The following are examples of such close relationships:

1. Mountain ranges serve as obstructions to the free movement of air masses.
2. The nature of the underlying bedrock is a geographic significance because of its relationship to surface topography, soil fertility, and mineral resources.
3. The elements of climate, temperature and precipitation in a specific part of the world will be high or low (much or little) due to climatic controls, such as land-water relationships, ocean currents, and mountain barriers.
4. Usually there is a close relationship between the physical environment (especially climate, soil, and drainage) and the type of original vegetation in the area.
5. Because of this relationship, the world vegetation may be associated with the world pattern of climate.
6. Soils form slowly from parent material under the influence of many variables, including climate and vegetation.
7. Because of the strong influence of climate and vegetation in soil formation, mature soils may be associated with particular climate types and vegetation types.

Learning Activities

(Numbers listed below refer to corresponding numbers above in Content.)

1. **Use** a world physical map and one showing the prevailing winds of the world to find:

   Two locations in the northern hemisphere where mountain ranges stand against:

   The prevailing Southwest Westerlies;

   The Northeast Tradewinds.

2. **Use** world maps showing geology, relief, agriculture and mineral resources to make the following correlations:

   Do you find igneous or sedimentary rocks in the center of mountain uplifts?

   What type of rock materials underlie most lowland plains?

   With what types of rock materials are the great agricultural areas of North America, China, Argentina, and Egypt associated?

   With what type of rock are the metal mining areas of Canada, Nigeria, Brazil, and Australia associated?

   In what type of bedrock areas are most of the oil fields, and oil and gas exploration activities today?

3. The Andes Mountains rise up abruptly from the ocean all along the western coast of South America.

   Compare the rainfall of southern Chile with that of Lima, Peru. Explain.

   Compare the temperatures of Punta Arenas, Valdivia, Valparaiso, Lima, Guayaquil, Buenaventura.

   Explain the difference of similarities.

4. **Compare** the native vegetation found in the vicinity of the cities mentioned above and relate it to the climate and to the relief. Perhaps one may find some relationships between vegetation, elevation, and drainage.

5. **Compare** the world vegetation map with the world map of rainfall. Make some correlations between type of vegetation in relation to annual precipitation.

   Less than 10 inches

   10 to 20 inches

   Over 20 inches only in summer

   Over 20 inches only in winter

6. & 7. Compare the world geologic map with the world soil map, world climate map, and world vegetation map.

   Do the soil boundaries correspond to boundaries between rock types?

   Do soil boundaries correspond to boundaries between:

   Types of climate;

   Types of vegetation?

   What can you conclude relative to soil formation—is the parent material derived from bedrock more important in soil formation; or, are climate and vegetation more important in soil formation?

Concept II

The complexity of any one of the earth's resources (e.g., landforms, climate, soil, minerals, water, wild plants and animals) can be made more understandable by dividing a particular resource into a relatively few classes.

Content

Although there is great diversity in terrain, a relatively few classes of landforms can be recognized.

Climate of an area is composed or made up of various elements which are measurable.

For purposes of study, climate, like terrain, can be grouped into a relatively few classes or types having similar characteristics.

Two approaches commonly are employed to discover relationships between climate and man's distribution:

First, is the study of the climatic elements individually, especially temperature and precipitation.

Second, is the study of the various associations of the climatic elements; i.e., the climatic types.

Certain climatic types generally are coincident with areas of the world that are sparsely populated.

Because of certain characteristics they possess, other climatic types are distinctly favored for human settlement.

Vegetation varies greatly over the earth's surface and different groupings (classifications) have been proposed by different people. (This helps explain why vegetation maps often disagree.)

Soils have different characteristics and may be grouped (classified) according to these characteristics.

Alluvial soils are young soils formed from material transported and deposited by water. In certain parts of the world, alluvial soils support a very dense population.

Learning Activities

Discussion Questions Directed to Class

1. How does the climate of Missouri (St. Louis) differ from the climate of northern Alaska (Barrow Point, Alaska), or of the Sahara of Africa (Khartoum, Sudan), or of the upper Amazon of South America (Iquitos, Peru)?

   Map Work—Teacher should first have a student locate these places being compared on a wall map.

   RESPONSES to questions should include temperature; rain or more correctly precipitation which includes rain: snow, hail, etc; humidity; wind; and some classes may also mention sunshine, cloud cover, and barometric pressure.

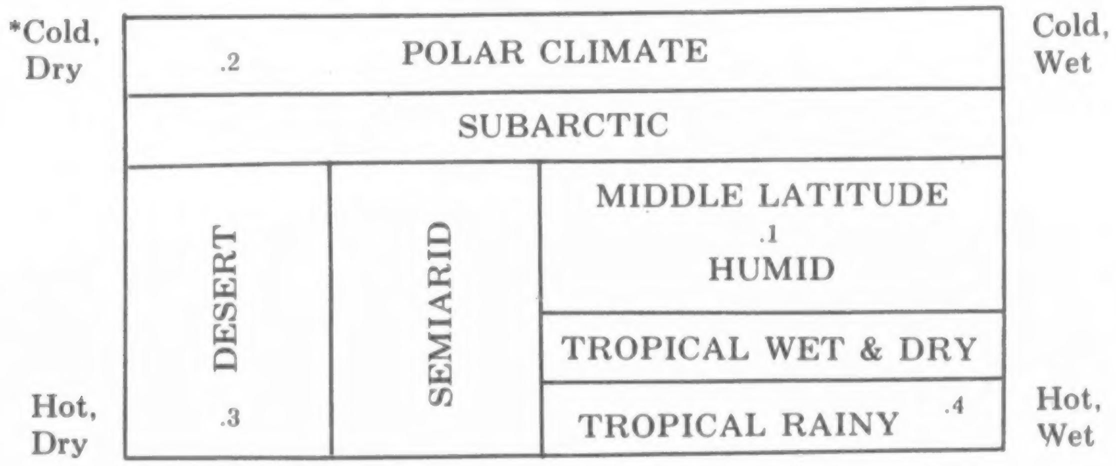
2. How do we know the climatic elements differ in these places?

RESPONSE—Measurement by instruments and recording the results for later comparison.

3. Of the climatic elements mentioned, which two are most significant to man?

RESPONSE—Precipitation and temperature.

4. The teacher should now refer to the following diagram which is to be on the blackboard.



The names in the diagram are **classes** or **types** of climate. The teacher should now ask a few questions to make certain the pupils understand the relationship between the types of climate and the elements of climate. Possible questions might be:

The desert climate and the semiarid climate differ mainly with respect to which climatic element? **RESPONSE**—precipitation or moisture.

The tropical rainy and middle latitude humid climates differ mainly with respect to which climatic element? **RESPONSE**—temperature.

The teacher may wish to point out here that this is a **qualitative** classification of climate since no numerical values are specified. It could be converted to a **quantitative** classification by assigning numerical values to the lines serving as boundaries between the climatic types.

The teacher should point out that this is a rather general classification of climate. If one wishes a more detailed (more specific) classification he can recognize several climatic types instead of just one. For example, the classification of climate used in many atlases recognizes five climatic types rather than the middle latitude humid type designated here.

5. Consider the four cities located on the wall map and hypothesize which of these will be coldest in January, warmest in July, and which will receive the greatest and least precipitation for the year.

After the teacher gets the consensus of the class, the climatic data can be presented and the correctness of the hypotheses determined.

	1. St. Louis, Missouri	2. Barrow Point, Alaska	3. Khartoum, Sudan	4. Iquitos, Peru
*January temp.	32° F.	-19° F.	73° F.	78° F.
July temp.	79	40	90	74
Annual ppt.	39.8 in.	5.6 in.	5.7 in.	103.1 in.

6. After students have seen the climatic data, have each student hypothesize in which climatic type each of the four stations would belong. Have a student put a dot at the approximate place on the blackboard diagram where the climate would occur.

7. Have each student write a sentence or two telling why he would, or would not, like to live in each of these four places. Consider only climate in making these decisions.

Concept III

Man's appraisal of the earth's resources varies according to his cultural heritage and technology.

Content

1. Natural harbors having a productive hinterland tend to foster the development and growth of large urban centers.

2. Man is not controlled by climate, for markedly different human activities occur in places having similar climates.

3. Depending on his technology, man can modify the climate but always at some cost.

4. Whether a mineral deposit is a "resource" will depend on the cultural heritage of the population.

Learning Activities

(Numbers listed below refer to corresponding numbers above in Content.)

1. **Distinguish** one from the other: harbor, port, hinterland.

   Compare the development and growth of New York City, New Orleans, and San Francisco with the development and growth of Savannah, Georgia; Mobile, Alabama; and Juneau, Alaska.

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* Data taken from Trewartha. **An Introduction to Climate.** Third Edition.

2. Referring again to the dry summer, subtropical, or mediterranean type of climate mentioned in activities of Concept II, name and locate the five main areas where this type of climate is found.

   - Find some examples of the same kind of activities or products because of the similarity of climate.

   - Find some examples of different human activities or different products.

   - See if you can find reasons for each different activity or product.

3. How has man been able to modify:

   Temperature?

   Rainfall?

   Humidity?

   Atmospheric pressure?

   What has been the result of man's modification of low temperatures?

   Has his knowledge of fuel been of any significance?
   Has his knowledge of building been of any value?
   Has he improved his clothing to better withstand low temperatures?

   In what ways has technology made it possible for man to live better and more safely in the Tropics where high temperatures prevail?

   Find some sparsely populated area in the Tropics. Do you think man's modification of high temperatures in these areas will make them more densely populated?

4. **Explain** why uranium was referred to as an element having no particular value in the early twentieth century, but today attracts thousands of dollars annually for the discovery and development of new deposits.

Concept IV

The advancement of our civilization to its present level is correlated with improved technology and greater utilization of the earth's resources, especially the mineral resources.

Content

1. Mineral resources, unlike water, are an exhaustible resource.

2. No major nation can fulfill its mineral needs by its domestic mineral production.

Learning Activities

(Numbers listed below refer to corresponding numbers above in **Content.**)

1. **Ascertain** the meaning of mineral, rock, ore.

   Why should mineral resources be called exhaustible?

   Suppose you classified mineral resources as exhaustible, reusable, or replaceable. Cite an example of each.

2. Today a major nation is an industrial or manufacturing nation. What minerals are needed for the development and growth of manufacturing?

   Make a list of minerals that the United States needs for manufacturing purposes but that are not found within its borders in sufficient quantities.

   What are some of the new methods of mining that have been developed in the past fifty years?

   Are mining areas generally densely or sparsely populated? Why are "ghost towns" so often associated with the mining industry?

Concept V

Knowledge of the gross distributional pattern of the earth's resources, plus an awareness of the interrelationships between man and the earth's resources, provides valuable insights for understanding man's distribution on the planet Earth.

Content

1. The two major surfaces (continents and oceans) of the planet Earth are unequally distributed and unequally preferred for man's occupance.

2. The different classes of landforms (mountains and plains, etc.) are unequally preferred for man's occupancy.

   - Most of the world's population is found on plains.
   - Plains differ as to human suitability according to their manner of formation. (e.g., plains of stream deposition versus plains of glacial erosion)
   - Classes of landforms other than plains generally are less desirable for human settlement unless they have other compensating resources.
   - Mountains and high plateaus tend to be more densely populated in low latitudes than in high altitudes.

3. Unlike climate, the various classes of landforms do not tend to occur on different continents at the same latitude.

4. Climate, through its influence on agriculture and forestry, has been a factor contributing to man's distribution over the earth's surface.

5. In the more accessible forests, lumbering and pulpwood industries provide a means of livelihood for a sparse population.

6. An adequate supply of fresh water is becoming a limiting factor in the growth of certain cities and industries.

7. Because of the previous importance of river transportation, many of today's large cities began as small ports.

8. A century ago water power provided an important source of non-human energy and sites such as waterfalls served as nodes of settlement.

9. In dry land regions where a dependable supply of irrigation water is available, local concentrations of population will sometimes be found.

10. The mineral fuels (coal, petroleum, natural gas) typically occur in sedimentary works whereas metallic minerals are usually obtained from igneous or metamorphic rocks and sometimes from sedimentary rocks.

11. The world distributional pattern of mineral deposits is decidedly irregular and does not conform to an orderly or predictable system.

12. The irregular distribution of minerals, plus the need for using different minerals, has fostered trade between certain mineral producing areas.

13. Nodes of population frequently occur where minerals are mined, handled during shipment, and manufactured into more useful products.

14. The presence of a high quality coal deposit (especially coking coal) in a technologically advanced country often leads to a high density of population.

Learning Activities

(The numbers listed below correspond to the numers in the preceding **Content.**)

2. Use world relief and world population maps to:

   Make a list of plains on which are found dense populations.
   Locate some plains areas that have sparse populations.
     State reasons why few people live in these plains.
     Compare means of transportation on these plains with transportation facilities on the densely populated plains.
   Locate the Altiplano, Ethiopian Plateau, Plateau of Tibet, and Greenland Plateau.

Compare the population on:
  The Altiplano with that of the Amazon Plains.
  The Ethiopian plateau with that of the Congo basin.
  The Plateau of Tibet with that on the Ganges—Brahmaputra Plain.
  The Greenland Plateau with that of Finland.

After studying the maps and the above relationships, **draw** some conclusions pertaining to the relationships between location, altitude, climate and density of population.

Is there any apparent relation between:

Plains and latitude,
Mountains and latitude,
Plateaus and latitude,
Hill lands and latitude?

5. Use world climatic and world vegetation maps to relate the forested areas to the types of climate.

Distinguish between:

Evergreen and deciduous trees,
Coniferous and broadleaf trees,
Hardwoods and softwoods.

In the utilization of forest resources,

What types of trees are used for pulpwood?
What types of wood have been used for farm machinery in years past?
For furniture? For baseball bats?
List some special uses of specific woods as redwood, ebony, teak, balsa, etc.

Compare the world population map with the world vegetation map and satisfy yourself that:

Forested areas are sparsely populated.
Forest products move to areas of dense population for final utilization.

6. Fresh water is one of the most important resources for human life and human activities.

From what sources may we obtain supplies of fresh potable water?
What industries make use of fresh water supplies?
  How many gallons a day are required for each use?
  Do industries need "soft" water or can they use "hard" water?
What is the meaning of "polluted" water?
  How did it become polluted?
  What must be done to polluted water before it can be used?
  Is the treatment of the water cheap or costly?

How and where do the following cities obtain their supplies of fresh water for domestic puposes?

Kansas City	New York City
St. Louis	Chicago
Jefferson City	Los Angeles
Columbia	San Francisco

7. How are the rivers of the United States used for transportation?

Relate the location of Pittsburgh, Pa.; Chicago; Duluth; Kansas City; St. Louis; Cairo, Ill.; to river transportation.

Can you **locate** five cities that have grown because of crossings of a river at that particular place?

8. Water falling over rocks, natural dams or man-made dams are sources of power.

Relate the "old mill wheel" to such locations.
Relate Buffalo, Niagara, and Keokuk to such features.
How many dams were constructed on the Tennessee River and its tributaries as a part of the Tennessee Valley Authority?
What has been their influence on population density and standard of living in the Tennessee Valley and its environs?
Investigate some new water power projects such as:

Glen Canyon Dam, Churchill Falls, Hell's Canyon

Relate these projects to population and industrial development.

9. Note areas of dense population in deserts and semiarid regions such as the Nile Valley; Old Mesopotamia; Cordoba, Argentina; and Phoenix, Arizona.

What makes these areas habitable?
What is the source of this resource at each location?

Explain how West Pakistan is able to support such a dense population on part of its area.

10. Use a geologic map and relate:

The oil, gas and coal fields to type of bedrock.
The iron mining areas to type of bedrock.

In what type of bedrock in Missouri are:

The lead mines of the Viburnum area.

The iron mine at Pilot Knob.
The coal fields of the Clinton and Moberly areas.
The barite fields of Potosi.
The oil and gas areas in the Florissant district near St. Louis and in the Lee's Summit and Parkville district near Kansas City.
The granite quarries at Graniteville.
The limestone quarries at Carthage and Ste. Genevieve.

11. through 14. On a world outline map **indicate** ten principal metal mining areas.

Is there a pattern to these areas comparable to the pattern of climate? Of soils? Of vegetation?

Are these areas densely or sparsely populated?

On a world outline map **indicate** ten principal coal mining areas.

Is there a pattern of these areas comparable to the climate, soil, or vegetation pattern?

What is the density of population of these areas?

Is the density of population greater or less here than in the metal mining areas?

Determine how coke is produced. Why should coking coal encourage a higher population density than peat or lignite?

Make a study of some metal producing areas, their densities of population, the products mined and their destinations.

On a world outline map plot the following metal mining areas:

Cobalt—Sudbury District
Ungava Trough (on boundary between Quebec and Labrador)
Itabira area
Kiruna—Gallivarre District
Bihar—Orissa area
Krivoi—Rog area
Broken Hill District
Upper Katanga area
Kuzbas
Mesabi

Determine the density of population of these areas.
List the products mined in each area.
Ascertain and **plot** on the map the destination of the mined products.
Indicate on the world map the routes these mineral products follow in reaching market.
List some products resulting from the manufacture of each of these raw materials.

UNIT II THE EARTH'S RESOURCES IN RELATION TO WORLD POPULATION

Resource Materials

World Maps:

- Relief or Physical
- Winds — Wind Belts—Planetary Circulation
- Agriculture or Land Use
- Mineral Resources—Metal mines
  - Fuels: coal, oil, gas
- Rainfall—April-September; October-March
- Temperature—July-January

Geology
Soil
Vegetation
Ocean currents—water circulation

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UNIT III

ECONOMIC ACTIVITIES IN RELATION TO WORLD POPULATION

UNIT III

ECONOMIC ACTIVITIES IN RELATION TO WORLD POPULATION

Suggested Time: Three Weeks

RATIONALE

In order to live most people work to satisfy their essential needs of food, shelter, clothing, tools, fuel and some luxuries. These essentials vary from one part of the world to another due to variations in environment and to variations in the cultural level of people. They may have different ways of satisfying their needs, i.e., by doing different kinds of work, or by doing the same kind of work differently. Throughout history, the majority of people have been engaged in agriculture, but with the world's increasing population not enough land is available for each family's cultivation; thus people in different parts of the world turn to other economic activities to meet their needs in the same way the people of northwestern Europe have done since the Industrial Revolution. **Primary** activities are those closely related or directly dependent upon the physical environment; namely, hunting, fishing, herding, lumbering, mining and farming. **Secondary** activities are those concerned with modifying the products of primary activities, such as manufacturing, processing, trading, and transportation. In densely populated areas, further specializations are developed and people find employment in service occupations. Even a quaternary class of activities such as music, art, education, provide a means for people to satisfy their needs by supplying these services to others who do not find time or opportunity to do these things themselves.

CONCEPTS

I. Since food is man's most essential need, everyone of the world's billions has some concern about food production. Some densely populated areas such as India and China scarcely produce enough food for their own people, yet they produce other materials for export such as cotton and soya beans. Most of the people in densely populated industrial areas produce little food, but engage in other activities to supply their needs. Some sparsely populated areas such as the Pampa and the Great Central Lowland of North America use a minimum of labor to produce great surpluses of food supplies.

II. With the development of the European Industrial Revolution, many people found employment in manufacturing and processing, thus using their income to purchase their essential needs. (This encouraged urbanization and permitted a great concentration of people having a higher state of material culture than had been possible by farming activities. Only a small percentage of the world's population, however, participate in manufacturing and processing activities.)

III. World trade—international trade—involves the distribution of surpluses produced in different areas to various other consuming regions. (The greatest trade both in volume and value takes place between northeastern North America and northwestern Europe—two densely populated areas each having a high state of industrialization. Sparsely populated areas may trade with densely populated areas — principally the movement of raw materials from the former in exchange for manufactured goods from the latter.)

IV. With the exception of agriculture, the other major primary activities of hunting, fishing, herding, lumbering and mining are associated with areas of sparse population. Secondary, tertiary, and quaternary activities normally are to be found more closely associated with dense populations and with higher standards of living.

Concept I

Since food is man's most essential need, everyone of the world's billions has some concern about food production.

Content

1. Considering only general characteristics, farming or agriculture may be classified as subsistence agriculture or commercial agriculture.

   Subsistence agriculture—people in some areas raise a variety of crops to provide just enough food for themselves and their families. Farms are small and there is little surplus for sale or barter.

   Commercial agriculture—people may raise one or a variety of crops in greater quantity than they can use and sell the surplus.

2. Another classification of farming may be based on how the land is used.

   Intensive farming—land is cultivated intensively—usually small farms where two or three crops may be grown on the same ground at the same time, or several crops grown consecutively.

Extensive farming—one or two crops grown over large areas with little labor required.

3. Still another classification is made according to the crops grown and the way they are grown:

   Plantation farming implies growth of one or two crops on large estates or acreages.

   General or mixed farming refers to growth of different crops usually rotated from year to year and often in conjunction with some livestock raising—beef, hogs, dairy cattle or sheep.

4. In all commercial agriculture, provision must be made to sell the surplus, transport it to regions of consumption, and use money from the sale to purchase other necessities.

5. Different crops are grown under different climatic conditions.

   Bananas, rubber, cacao, and sugar cane are examples of crops that require plenty of rainfall and high year-round temperatures.

Apples, rye, oats, potatoes grow well in cooler climates with 20-40 inches of rainfall—usually where there are temperature seasons.
Most crops require 20-40 inches of rainfall annually—if this is not available, the land may be irrigated as is done in Egypt, Arizona, California, Iraq and other arid lands.

6. Different types of soil influence the growth of crops.

   Leached soils are acid in character and need much alkaline fertilizer to continue to produce crops.
   Alkaline soils develop under arid and semiarid climates and have a greater inherent fertility than acidic soils.
   Transported soils, especially those deposited by rivers on flood plains and deltas are very productive.

7. Plains are most favorable for agricultural activities.

   Densely populated plains encourage people to farm intensively.
   Sparsely populated plains favor extensive farming.
   Where population is dense and there is a great need for food, people may terrace hillsides or mountain sides for farming.
   Plateau lands in the tropics are more healthful for farm laborers than are the tropical lowlands.

Learning Activities (Number below refers to corresponding number in **Content** above.)

1. Locate some areas of subsistence agriculture.

   Relate these areas to density of population.
   Relate these areas to stage of culture.

2. Locate five areas of extensive farming.

   How are these related to density of population?
   Where do the surpluses go?

   Find five areas of intensive farming.

   Are these areas densely populated?
   How many crops may be grown on the same plot of ground in one year?
   What must be done to the soils in order to produce several crops in one year?

3. General farming is practiced in northeastern United States and western Europe.

6. Can any type of soil grow any type of crop?

7. Why are most agricultural areas in plains regions?

Take field trips: Agricultural machinery distributor.
Farming activities: Planting, harvesting.
Related industries: Canning, freezing, drying.
Study methods of improving yields and quality.

Concept II

With the development of the European Industrial Revolution many people found employment in manufacturing and processing, thus using their income to purchase their essential needs.

Content

1. Manufacturing has developed from the handicraft stage of primitive or pioneer peoples to the complex computer controlled factories of today.
2. Processing, in contrast to manufacturing, involves the separation of a complex natural product into usable parts.
3. The greatest metal manufacturing is that concerned with the production of iron and steel.
4. Textile manufacturing involves the conversion of vegetable, animal and synthetic fibers into cloth, fabrics, and clothing.
5. In recent years, the manufacture of chemicals has required a tremendous increase in technological knowledge and labor.
6. Today the strength and wealth of a nation is measured by its industrial capacity and technological development rather than by the number of its people.
7. The movement of people from place to place and the movement of surplus and manufactured products from place to place have required the manufacture of improved transportation equipment.

Learning Activities (Number below refers to corresponding number in **Content** above.)

1. **List** the materials and their sources that go into the manufacture of an automobile.
2. As an example of processing, **list** all the products obtained from a steer after he is slaughtered.
3. **Locate** the great iron and steel manufacturing areas in the world.

   List the big steel companies of the United States.
   What was "Pittsburg Plus?"
4. **Trace** the history of the textile industry from "homespun" to nylon.

What effect have synthetic fibers had on the production of natural fibers?
Where are the principal areas of silk fiber production? Why?

5. **List** various types of chemical products.

6. **Prepare** bar graphs showing Per Capita Energy Use and Per Capita National Income from the following table.

	Per Capita Energy Use (Millions of British thermal units)	Per Capita National Income (U. S. Dollars)
United States	232	2,308
Canada	163	1,461
United Kingdom	142	1,148
Australia	116	1,237
West Germany	105	1,114
Soviet Union	84	800
Netherlands	81	868
France	73	1,035
Japan	37	402
Argentina	34	413
Brazil	10	129
India	4	67

7. **List** and consider the importance of the nine factors which influence the location of a factory.

Take field trip to local factory.
Invite a representative from company or factory to discuss problems of industrial development.
Assemble samples of raw materials that go into the making of a local manufactured product.
Debate subject related to manufacturing, as:
Laborers should be paid an annual wage rather than be paid on an hourly basis.

Concept III

World trade—international trade—involves the distribution of surpluses produced in different areas to various other consuming regions.

Content

Because of differences in climate, principally temperature, there is a great movement of produce from low latitude regions to high latitude regions and vice versa.

Sparsely populated agricultural areas ship great quantities of surplus food grains to densely populated areas.

Major manufacturing areas generate much international trade.

Political differences may handicap international trade.

Different stages in cultural development are favorable for the development of international trade.

Learning Activities

Trace on an outline map of the world:

The most densely populated areas.
The principal manufacturing regions.
The world's ocean trade routes.

Why should there be a great amount of north-south traffic:

In the United States?
In the Western hemisphere?
Between Europe and Africa?

The greatest wheat exporting nations are the United States, Canada, Australia and Argentina.

Study the wheat producing regions with respect to population density in each nation.

Where does the wheat go from each nation?

On a world outline map, **show** the international trade in cane sugar.

Prepare a report on "The European Common Market and Its Influence on International Trade."

Trace the history of ocean travel from the earliest known vessel to the modern liners or freighters.

Study pipeline transportation. Prepare a report on its present use and future possibilities.

Study inland water transportation.

Prepare a report on "The Significance of the Great Lakes to the U. S. and Canada."

Discuss the significance of "The 'Pegged' Price of Gold."

Concept IV

With the exception of agriculture, the other major primary activities of hunting, fishing, herding, lumbering and mining are associated with areas of sparse population. Secondary, tertiary and quaternary activities normally are to be found more closely associated with dense populations and with higher standards of living.

Content

Surpluses of minerals and lumber from sparsely populated areas move to regions of manufacture.

Underdeveloped countries exchange their raw materials for manufactured products from industrial nations.

Learning Activities

On a world outline map, **locate** the iron producing regions and the iron and steel manufacturing regions. Indicate the routes by which the ore moves to the mills.

Prepare an article on the shipment of ore from Kurnavaare to market; or an article on the shipment of ore from Itabira to market.

Study the lumber production of U.S.S.R.

Africa has a variety of mineral resources. **Explain** the pattern of exploitation of resources at the present time. What of the future?

Study the relationships between densely populated areas and the development of the fishing industry.

Correlate semiarid climate with vegetation, nomadism and density of population.

Take field trips:

- To see different industries.
- To visit different factories.
- To airports, communication centers, etc.
- To industrial museums, exhibits.

RESOURCE MATERIALS

World Maps

- Population
- Relief
- Geologic
- Climate
- Soils
- Vegetation
- Temperature:
  - Winter
  - Summer
- Rainfall:
  - Winter
  - Summer
- Agricultural products
- Mineral products
- Industries
- Manufacturing
- Transportation:
  - Rail
  - Water
  - Airline

Economic atlases

Economic geography textbooks

Economic geography journals

Geographic periodicals

Agricultural journals

Manufacturing journals

Trade journals

Yearbooks: Domestic Commerce
Foreign Commerce

Films, filmstrips, slides

Shipping companies
On almost any aspect of manufacturing (Manufacturer's films)
Airlines and railroads
Highway departments
Documentary films
Products; i.e., wheat, rice, coffee, silk, etc.
Regions—typical

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Van Royen, William. **Atlas of the World's Resources.** Englewood Cliffs, New Jersey: Prentice-Hall, Inc.,
Volume I - **Agricultural Atlas of the World,** 1954
II - **Mineral Resources of the World,** 1958
III - **Forest and Fishery Resources,** 1958

Professional Journals

Annals of the Association of American Geographers. Washington, D. C.: Association of American Geographers, quarterly.

UNIT III ECONOMIC ACTIVITIES IN RELATION TO WORLD POPULATION

Economic Geography. Worcester, Mass.: Clark University Press, Clark University, quarterly.

Focus. New York: American Geographical Society, monthly, except July and August.

Geographical Review. New York: American Geographial Society, quarterly.

The Journal of Geography. River Forest, Illinois: National Council for Geographic Education, monthly, except June, July and August.

Professional Geographer. Washington, D. C.: Association of American Geographers, bimonthly.

Social Education. Washington, D. C.: National Council for the Social Studies, monthly, except June, July and August.

Government References

U. S. Department of Agriculture:
  Economic Research Service
  Foreign Agricultural Service
  Marketing Research Division
  Office of Technical Services

United Nations:
  Economic Bulletins
  Commodity Yearbook
  Statistical Yearbook

UNIT IV

DELINEATION OF WORLD REGIONS

UNIT IV

DELINEATION OF WORLD REGIONS

Suggested Time: One Week

RATIONALE

It is necessary to divide the world into regions because of the impossibility of studying all of the geographic aspects of the world as a single unit. Each region is unique in that it has a specific set of criteria which separates it from all other regions. The regional concept implies that there are differences that exist between regions, while at the same time it implies that similarities exist within a region.

CONCEPTS

I. Regions are divisions of the earth's surface having some particular unifying characteristic. The boundaries of a region may be either well defined or zones of transition.

II. The delineation of regions may be based on natural phenomena, human activities, or a combination of the two.

III. There are two kinds of regions based upon the nature of the region itself. One is uniform and one is nodal or focal.

Concept I

Regions are division of the earth's surface having some particular unifying characteristic. The boundaries of a region may be either well defined or zones of transition.

Content

Review all the ways in which regions may be developed or defined. Regions have one property in common; they are defined, located, and delimited by man. Study the "why's" of this statement. Some regions tend to overlap, thus their boundaries become transition zones-Why? Other regions, such as the legal extent of a city, have well defined boundaries—Why?

Learning Activities

Two short exercises could be used to illustrate the point of this concept.

1. Have the class make two lists of regions. One, a list of regions that have exact, well-defined boundaries and second, a list of regions which are less well defined.

Regions with Exact Boundaries

Political Units

- Legal or corporate city
- City
- State
- County

Governmental Administrative Units

- Federal reserve bank districts
- School districts
- Social security regions
- Zip code regions

Private Regions

- Marketing or rate regions of companies
- Telephone area code regions

Natural Phenomena

Some types of natural features are fairly well defined but not precisely; the end of a mountain chain or the edge of a river, for example.

Regions with Ill-Defined Boundaries

Great Plains

Ozarks

The South or Dixie

Wheat Belt

Middle East

Suburbs

Tundra

2. Have the students try to think of all the types of regions and regional boundaries that are applicable to them. For example, the political units of which they are a part; i.e., city, county, state, etc.; the telephone exchange and area code region, zip code region, directional region, i.e., Midwest, South, etc.

Concept II

The delineation of regions may be based on natural phenomena, human activities, or a combination of the two.

Content

The main points of this concept are: (1) practically any criteria can be used to mark off a region and (2) a particular place may be in many different kinds of regions.

Examples of criteria for marking off regions:

Amount of rainfall, average temperature, kinds of vegetation, farm products, industrial employment.

UNIT IV DELINEATION OF WORLD REGIONS

Any one place such as Missouri is in a certain climatic region, a certain agricultural region, and a certain Federal income tax region, each of which are different and which overlap each other.

Concept III

There are two kinds of regions based upon the nature of the region itself. One is uniform and one is nodal or focal.

Content

These two kinds of regions are:

Uniform. This is the type of region sometimes called "formal" regions, where there is a homogeneity of features or forms over the whole area. This homogeneity can be based upon only one single criteria, like rainfall or can be the uniform mixture of several or multiple criteria.

Focal or nodal. This refers to a type of region where things function around or out from a central point. For example, a town serves as a central shopping place for people living in the surrounding area. The influence of this town diminishes with distance from the town. The hinterland is focused on the town through a network of circulation. Things can either radiate out from the town, such as newspapers; or things can be funneled into the town, such as milk from the farms to the central creamery.

Learning Activities

If in a larger city, the students could make a map of the focal points (shopping centers) where their families go to make purchases.

EXPLANATION OF THE REGIONAL ORGANIZATION AS PRESENTED IN THIS GUIDE

In this guide, the earth is divided into ten major regions, each one comprising one teaching unit. The delineation of these particular regions is primarily a matter of convenience. In most cases, they represent the traditional regions and terminology of world regional geography. There is no consistent criteria which would apply to all of the regions. Some of the regions, like Latin America for example, are cultural regions.

One region, the Soviet Union, is a political region. There are regions, the Pacific World for example, which are delimited according to physical characteristics. Another region, Europe, is often considered a continent while at the same time implying certain cultural and historical similarities; such as: delimited in this guide, encompasses Europe exclusive of the U.S.S.R. In a few cases, like the Middle East, several criteria were used.

The order of the regions and the suggested time allotments are based on the belief that the regions the student probably knows best should come last and be allocated less time. Anglo-America, Latin America and Europe are usually emphasized in the lower grades and are probably better known to the student. The Soviet Union, certainly an important region, is probably less well known, and consequently should be given more time. The same is true for the Far East. This is all a matter of choice and obviously the teacher can, if he feels justified, rearrange the order and add to or subtract from the suggested time.

The regions are as follows:

UNIT V	THE SOVIET UNION	3 weeks
UNIT VI	EAST ASIA	3 weeks
UNIT VII	SOUTHEAST ASIA	2 weeks
UNIT VIII	THE PACIFIC WORLD	2 weeks
UNIT IX	THE INDIAN SUBCONTINENT	2 weeks
UNIT X	THE MIDDLE EAST	2 weeks
UNIT XI	AFRICA	3 weeks
UNIT XII	EUROPE	2 weeks
UNIT XIII	LATIN AMERICA	2 weeks
UNIT XIV	ANGLO-AMERICA	2 weeks

REFERENCES

The following recent college geography textbooks appear as references in most of the regional units in this guide. Any one or several of these regional geography books would serve as a good reference source for the teacher.

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UNIT V THE SOVIET UNION

UNIT V

THE SOVIET UNION

Suggested Time: Three Weeks

RATIONALE

The Soviet Union is one of the two great super powers of the twentieth century. The existing political system has been able to unite people of diverse ethnic composition into a single political unit. At the turn of the century, Russia was a relatively backward, agrarian country with an embryonic industrial base. Today, the Soviet Union is one of the great industrial leaders and as such, it exerts great economic and political influence upon the many "emerging nations" of our time.

CONCEPTS

I. The Soviet Union, a country which ranks first in geographic size and third in population, is one of the world's two great super powers.

II. Most of the Soviet people are Slavic; but, many minority groups exist and the fifteen Soviet Socialist Republics represent an attempt to recognize this ethnic diversity.

III. In spite of the Soviet Union's tremendous size, much of the land is sparsely populated. Most of the people live within a triangular area extending from Leningrad to Odessa and tapering eastward to beyond Lake Baikal.

IV. The population triangle represents the agricultural and manufacturing heartland of the Soviet Union.

V. The distribution of Soviet population, the economic growth, and the existing trade patterns cannot be fully understood without considering the historic background, the political philosophy, and the effect of expanding technology.

Concept I

The Soviet Union, a country which ranks first in geographic size and third in population, is one of the world's two great super powers.

Content

The area of the Soviet Union is approximately 8,600,000 square miles and her people number about 239,000,000.

The country is larger than all of North America including Mexico; and if super-imposed upon North America, Leningrad would reach to Nome, Alaska while eastern Siberia would touch Norway across the Atlantic Ocean!

The greatest east-west distance is about 5,700 miles (about 10 days by railroad and the equivalent of a trip from San Francisco to London).

North-south distance measures about 2,900 miles and a trip by rail would take almost a week to complete.

The longitude span of the Soviet Union is about 170°.

The Soviet Union covers about 1/6 of the earth's total land surface or an area as large as the face of the moon.

Learning Activities

Have the students work out the average population density of the Soviet Union. (Divide the total population by the total area.) How does the result of about 27 per square mile compare with other nations of the world; i.e., Great Britain, Netherlands, China, Japan, United States, Canada, Australia? How can one explain the variation from country to country?

Explain the fact that the Soviet Union extends through 170° of longitude can be misleading in view of the country's high latitude position. In order to show that distances between longitude lines become significantly smaller upon approaching the poles and also to **point out** the distorations of map projections, assign the following map exercise:

> Give each student a copy of a cylindrical projection and a polar or polyconic projection showing only the grid system appropriately marked. Using the globe as a reference, have the student draw in the northern shore of the Soviet Union. (Be sure to consider similarity of scale in the two handouts.) The student should become aware of gross high latitude distortion on the cylindrical projection.

Stimulate discussion around the following questions:

> Can one say that size alone can guarantee a country an important political position in the family of nations?
>
> What could be some possible advantages of great size?—Greater possibility for the existence of natural resources; i.e., minerals, timber, climatic variety which in turn could support a variety of agricultural commodities; available land for an expanding population and expanding manufactured growth; room for defense in depth as witnessed by the Napoleonic invasions and, more recently, the German invasion of World War II.
>
> What could be some possible disadvantages of great size?—The problem of spanning great distances in order to unify the country economically as well as politically. (Is party influence really as great in Soviet Middle Asia or the Soviet Far East as it is in the western part of the country?)

Assign the following problem:

> How many time belts does the Soviet Union possess? Have students explain why there are

eleven time zones by showing the relationship between 15° of longitude and one time belt.

Concept II

Most of the Soviet people are Slavic; but, many minority groups exist and the fifteen Soviet Socialist Republics represent an attempt to recognize this ethnic diversity.

Content

The 239 million people (early 1968) of the Soviet Union represent nearly 200 national groups and speak about 80 different languages.

Three-fourths of the population, however, is Slavic and can be divided into the Great (Red) Russians (58%); Ukranians (Little Russians) (15%); Byelorussians (White) (3%).

Other important groups are as follows:

Finns, of Mongol extraction, who live near the Finnish border.
Turkic groups of Central Asia; Cossacks, Tatars, Uzbeks, Turkmen, Kirghiz.
Mongols, live along the lower Volga to Lake Baikal; Buriats, Kalmucks, Mordviis, Chukchi, Tungus, Samoyedes, Koriaks.
Indo-Europeans; Armenians, Georgians, Azerbaidzhanians, Kurds, and Tadjiks of the Caucasus and Central Asia.

The Soviet constitution guarantees freedom to practice cultural diversity. A knowledge of Russian and conformity to Russian social and political ideals bring greater success in the Soviet Union.

With increased development in eastern Soviet Union since the Revolution, ethnic maps show the movement of Great Russians into Central Asia, Siberia, and the Soviet Far East as they are put in charge of new economic projects.

The Soviet Union is a country of young people. In 1959, about 65% were under the age of 30 years. (This is due, in part, to the two world wars and the Stalin purges. There is a surplus of 20 million females in this age group.)

Learning Activities

When teaching this concept refer to **Oxford Economic Atlas of U. S. S. R.,** pp. 90-97 for map of ethnography; also, front endpaper for map of S. S. R.'s. Use opaque projector.

Give students desk outline maps of Soviet Union. Have them label the 15 S.S.R.'s (Soviet Socialist Republics).

Use pictures from current magazines, books, etc. to show diverse ethnic composition. Show film **People of the Soviet Union** from University of Illinois Visual Aids Service. (See list of resource material for complete information.)

Stimulate discussion around the following questions:

How can you explain the presence of the Great Russian from western Soviet Union all the way to Vladivostok?

How does the Soviet method of dividing the country into political units compare with that of the United States? Which do you think is more logical?

Both the Soviet Union and the United States are composed of people with varied ethnic backgrounds. From your knowledge of both countries, do you think that the idea of a "melting pot" can apply equally well to both? Why or why not?

Have students write a report on a selected Soviet Socialist Republic.

Concept III

In spite of the Soviet Union's tremendous size, much of the land is sparsely populated. Most of the people live within a triangular area extending from Leningrad to Odessa and tapering eastward to beyond Lake Baikal—the population triangle.

Content

Climate, with corresponding soil and natural vegetation patterns, can help to explain the existing population pattern of uneven distribution.

Within the **triangle** the following climatic, soil, and natural vegetation patterns can be found:

Humid continental climate with an original mixed or deciduous forest cover and relatively fertile grey-brown podzol soils.

Sub-humid continental or continental steppe climate with an original prairie or steppe grassland cover and chernozem, chestnut, and brown soils of high fertility.

Outside the **triangle** the following climatic, soil, and natural vegetation patterns can be found:

Polar marine climate along the Arctic fringes with a tundra vegetation and very poor podzol soils under permafrost conditions.

Polar continental climate (continental short summer) with a coniferous or larch forest and podzol soils subject to permafrost.

Dry continental climate (continental desert), south of the steppe with desert vegetation and soils.

Humid subtropical climate, a microclimatic area including the Kuban and Rion Valleys as well as other eastern Black Sea costal fringes. Supports a subtropical humid forest and red to yellow subtropical soils.

Mediterranean subtropical climate, another microclimatic area in the valleys of the Krym Mountains of southern Crimea, supports a sclerophyllic vegetation and subtropical soils.

The climates outside the main population triangle do support some isolated clusters of population.

Both the humid and mediterranean subtropical areas show relatively high population densities.

In the dry continental areas of Central Asia, there are several regions of high population density around cities like Tashkent, Samarkand, Ferghana, and Dyshambe (Stalinbad). These are ancient cities that grew up around water sources, supporting irrigation agriculture, and serving as "ports" for Middle East caravan traffic.

The polar continental climate sustains cities like Leningrad and Archangel. Both have limited climatic influence from the Gulf of Finland and White Sea which moderates the temperature.

The only city of significant size in the polar marine climate is Murmansk which is kept open year round because of the influence of the North Atlantic Drift, despite a latitude position above the Arctic Circle.

Climates supporting higher population densities show a better balance between the heat and moisture budget, less temperature extremes, higher precipitation rates, greater soil fertility without permafrost.

Climatic severity has also affected the distribution of transportation and communication facilities and has helped to restrict economic development. It has affected isolation in many areas outside the Triangle.

The busiest rivers of the Soviet Union are the Volga, Dnieper and the Don which flow south and serve the western industrial regions.

The Volga River, traditionally the leading transportation artery of Russia, still carries a great volume of north-south traffic in the form of timber, building materials, and petroleum. It is open about seven months on the middle course and this ice-free condition increases to better than two months at Astrakhan. The **Great Volga Project** has helped to regulate seasonal flow to that travel is possible in the summer months. The Volga-Don Canal at Volgagrad (Stalingrad) makes it possible to divert traffic into the Black Sea area.

The Dnieper carries most of the river traffic of the industrial Ukraine. Rapids on the lower course are drowned by a 120 ft. high dam at Dniepropetrovsk. The river is ice free for better than nine months on the lower course.

The Don carries much of the heavy industrial goods from the Donbas as well as the traffic diverted from the Volga.

These rivers, as well as others of western Russia, are connected by an elaborate system of canals that bridge divides. Moscow, in spite of its inland position, is known as "The City on Five Seas" because river and interconnecting canal systems make it possible to reach the

Baltic, White, Caspian, Black Seas and the Sea of Azov.

Other rivers of the Soviet Union must face severe climatic handicaps, like those that flow north to the Arctic.

The North Dvina, Pechora, Ob-Irtysh, Yenisei-Angara, Lena, Indigirka, Kolyma, etc. are used for transporting timber and minerals from the interior and connect with the 1,000 mile Northern Sea Route from Archangel to Vladivostok.

These rivers are navigable along their lower courses for no more than two-three months per year and are subject to spring flooding. This is complicated further by permafrost soil conditions and the gentle slope of their courses.

Rivers of Central Asia, i.e. Amu Darya and Syr Darya, are unreliable in flow and reach a peak in spring and summer flooding. They are used more for irrigation than transportation.

The Amur-Ussuri is a major transportation link for the soviet Far East and, unlike the previously mentioned streams, flows west to east. Ocean ships can travel up to Kabarovsk and the river is ice free for about seven months to this point. Vladivostok is kept open year round by ice breakers.

Water transportation has been superceded by rail transportation in recent times. The railroads, too, are subject to climatic problems.

Railroads are best developed in the more favorable climatic regions and coincide remarkably with the Triangle.

Development is most extensive in the West, with Moscow serving as the hub, and tapers eastward, where the Trans-Siberian dominates.

A few lines are exceptions to the pattern and were developed to tap specific resources, i.e., **Norilsk-Dudinka** line, near the mouth of the Yenisei, to bring out non-ferrous metals and coal; the Pechora line to tap the coal from that region; and the Turk-Sib, Central Siberian and South Siberian lines into Central Asia and Western Siberia to bring out the grain, cotton, wool, silk, fruit, and minerals.

Lines built to remote northern regions are subject to buckling and sinking because of expanding and contracting of the surface which is affected by the permafrost.

Since 1954, the Soviet Union has been striving to replace all steam locomotives with diesel and electric power; a move which has helped to solve water problems for lines like the Trans-Caspian that have to cross the waterless desert.

In spite of the problems of Soviet railroads, they carry about 75% of all freight volume, greater than any country in the world. This includes the United States, which has three times the density of railroad lines.

Freight densities are also the highest in the world as bulky raw materials like coal, oil, timber, building materials, ferrous and non-ferrous metals cross great land distances.

Highways are also difficult to build in the higher latitudes because of the perma-frost conditions.

They have been de-emphasized in the Soviet Union and are poor by western standards.

Only about 6% are paved and most of these are around Moscow, Leningrad, and the Ukraine.

Truck traffic is greatest, but accounts for about 5% of the total freight carried. Public transit by bus and trolly is more prevalent than auto transit.

Air traffic is on the increase, both passenger and freight. (Mail, personnel and supplies to remote stations.)

Connections are best from western cities like Moscow, Leningrad, and Kiev. Routes move to Eastern and Western Europe, Asia and to other continents.

Reconnaissance flights into Eastern Siberia are a notable facet of the Northern Sea Route operation which checks ice blockage in the Arctic Ocean and the north flowing rivers.

Learning Activities

While teaching this concept, refer to maps of the Soviet Union showing the climatic, soil, and natural vegetation patterns; also, refer to maps showing transportation facilities—kind and distribution. Use opaque projector.

Oxford Economic Atlas. pp. 24-31 and pp. 80-89
Kingsbury and Taaffe. **An Atlas of Soviet Affairs.** pp. 90-95 and pp. 118-131.

Emphasize the interrelationships between the climatic, soil and natural vegetation zones.

Emphasize the idea that many of these natural vegetation zones no longer exist in reality since they have been replaced by a cultural landscape.

Map Work: Have the students label the major rivers, seas, and lakes of the Soviet Union. Even more significant is the ability to relate the direction of flow with landform patterns. Have the students refer to physical maps of the Soviet Union and indicate the direction of flow as a result of their examination.

Stimulate discussion around the following questions and ideas:

Postulate the existence of a population triangle to the students and have them theorize as to the placement, giving reasons for their choice. (This could be done by giving the climatic, soil, and natural vegetation patterns as background information that could be used as a basis for judgment.)

What explanations can you give for the Soviet Union's climatic extremes?

What interrelationships exist between climate, soil, and natural vegetation?

In what parts of the Soviet Union are the soil and natural vegetation patterns most likely to be in a more nearly "natural" state? Why?

Compare the Soviet Union and the United States in their climatic, soil, and natural vegetation patterns. Is there a better comparison?

Compare transportation distribution as well as kind and quality of the facility. What are the important differences? Similarities?

Why has rail transportation replaced water transportation as the most important in the Soviet Union?

Show filmstrip, **Transportation and Communication.** Chicago: Society for Visual Education, Inc. (See list of resource material for complete information.)

Concept IV

The population triangle is also the agricultural and manufacturing heartland of the Soviet Union.

Content

Soviet agriculture continues to be the problem sector of the economy.

Part of the problem is with the land, only 11% of which is classified as arable. Even this figure contains many marginal acres, subject to drought, short growing season, poorly drained and acid soils, and rugged terrain.

Part of the problem lies in the system of collectivization and the resulting dissatisfaction of the Russian farmer.

This began in 1928 when 750,000 Kulak families, often the most skilled of the Russian farmers, lost their lands to collectivization, which was completed by 1933.

These and other farmers responded by slaughtering their cattle and draft animals, which helped to lead to poor yields in 1932 and 1933 and the subsequent famine of 1932-33.

Today, the Russian farmer often has a lower annual income than industrial workers, another cause for dissatisfaction.

The Soviet Union has no agricultural region that can compare favorably with the American Midwest. The best lands are found in the European wooded steppes and steppes which compare more favorably with the Canadian prairies than any other region.

Food production and agricultural raw materials can be associated with the following climatic regions:

Wheat is grown in the more **subhumid continental (steppe) climates.** Winter wheat is raised in the Central and Southern Ukraine while the eastern lands along the Volga and the "Virgin Lands" of Western Siberia grow spring wheat because of the more severe winters.

Although there is no true Corn Belt in the America sense, corn and hogs are becoming increasingly more prevalent in the **humid continental climates** of Western Soviet Union. Potatoes, sugar beet waste, and silage from corn that may not mature because of a short growing season, are used to fatten the livestock.

Sugar beets, of which the Soviet Union is the leading producer, are grown in the **humid continental areas** like the northern Ukraine. They are also found eastward to the Volga and in even more arid regions to the south growing under irrigation.

Potatoes are associated with the cooler **humid continental areas** that lie north of the sugar beet belt. They are grown in more acid soils of looser texture along a broad belt from Leningrad to the Urals.

Rye, oats, and barley can be found under a wide variety of climatic conditions. Rye and oats can survive colder temperatures and more acid soils and, therefore, are raised north to the Arctic Circle. Barley is raised in areas of marginal precipitation.

Hemp and flax are raised in the **humid continental areas,** mostly in Western Soviet Union. They coincide with areas of potato and sugar beet production. Hemp yields fiber for industrial purposes. Flax is raised for linen and for seed which yields linseed oil and associate items.

Cattle are associated with **humid continental climates** and are found in greater numbers around urban centers. Soviets specialize in dual purpose breeds of cattle that yield meat as well as milk. Per capita consumption of these two items is much lower than in the U. S.

Sheep are associated with the highlands of the Caucasus, Southern Ukraine or the dry lands of Soviet Central Asia. Both wool and hair sheep are raised.

Areas of specialized agriculture include the following:

Cotton—about 90% of the Union's cotton is grown on irrigated lands in Central Asia along such streams as the Amu and Syr Darya. The Ferghana Valley of Uzbek raises 30% of the total.

Tea, tobacco, citrus, grapes, sericulture in the **humid subtropical** and **Mediterranean subtropical areas** of the Transcaucasus and Crimea.

In spite of many problems, Soviet agriculture is making some gains.

The total number of acres under cultivation has increased greatly in Soviet times, even though much of it is marginal.

The Soviet Union has about 1/3 more land under cultivation than the United States. She has about 30 million more people, however.

The Soviet Union is the largest wheat producer in the world. Her many acres of subhumid lands are more suited for grain than any other crop. Yields per acre, however, are below U. S. standards as little commercial fertilizer is used. Droughts plague her harvests in certain years causing her to purchase wheat abroad, as happened in 1963.

New trends in Soviet agriculture include:

The opening of the "Virgin Wheat Lands" of Western Siberia in the late 1950's under Khrushchev to free acres to the west for corn and livestock production.

A trend away from rye, oats, and barley toward wheat, vegetables, and greater meat, milk, poultry, and egg production.

The abandonment of the machine tractor stations and the creation of larger collective farms, even though the individual plots are maintained where produce can be sold on a free market.

The abandoning of crop rotation practices that included the planting of cover and legume crops. This may increase production but should lead to further soil depletion.

In summary, Soviet agriculture needs heavier investment, greater research and greater individual incentive to bring this sector of the economy up to standards.

Mining and manufacturing have always been stressed in the Soviet economy and spectacular strides continue to be made in the present decade.

Several factors are paramount:

The Soviet Union may well be the most self-sufficient country on earth in terms of mineral deposits and other raw materials.

Four major power sources are found in abundance: coal, petroleum, natural gas, hydroelectric power. (Four-fifths of this energy, however, is east of the Urals while two-thirds of the population live west of the Urals.)

Coal resources are the greatest in the world and Soviet production is the greatest of any country. Major fields are the **Donbas** of the Ukraine and the newer, but less well developed deposits of **Karaganda** and the **Kuzbas** in Eastern Siberia.

Petroleum deposits are found in a north-south axis. The earliest field of **Baku,** west of the Caspian Sea in Azerbaidzhan, has been surpassed by the **Emba Field,** north of the Caspian Sea and more recently by the famous **Second Baku Field** that lies west of the Urals near the Volga and centers around such cities as Syzran and Kuibychev.

Natural gas deposits also come from the Volga-Ural region as well as from Azerbaidzhan and the Ukraine.

Water power facilities began on western rivers like the Dnieper but have expanded to all major rivers in the country. **Bratsk,** on the Angara, has the greatest generating capacity of any dam in the world. Otheroutstanding facilities are at **Krasnoyarsk,** on the **Yenisei** and at **Kuibyshev** and **Volgagrad** on the Volga.

Reserves of metallic and nonmetalic resources are also very large.

Iron ores are found at **Krivoi Rog** and **Kerch** in the Ukraine as well as at the **Kursk Magnetic Anomoly** to the north. The Urals are also a major supplier and more recently deposits were found at **Kustanay,** Kazakhstan on the Tobol and at **Bratsk** on the Angara.

Ferro alloys come from **Nikopol,** Ukraine and **Chiatura,** Georgia (manganese). The **Urals** produce nickel and chromite.

Many other non-ferrous metals are produced in the Urals or in Central Asia.

Tin, previously a deficiency, has been found in the **Kolyma Basin** of Northeast Siberia and in **Transbaikalia.**

Nepheline, found in the **Soviet Far East,** is being substituted for bauxite which is in short supply.

Sulphur, also in short supply, is recovered as a by-product of other industrial processes.

Other raw materials include: huge timber resources in the Soviet taiga forests beyond the Urals; a wide variety of fibers—hemp, flax, cotton, and silk; potatoes, as a source of industrial alcohol.

Although Russia was industrially backward at the turn of the century when compared to nations of Western Europe, Soviet Russia did inherit a considerable legacy of industrial development from Czarist Russia.

The first major industrial surge took place under Peter the Great who saw that improved technology was primary to success in the military campaigns of Imperial Expansion. Dutch, German, and British craftsmen were brought in and the ores of the Urals were developed in this period.

The next significant period of industrial expansion took place between 1860 and 1914. This time it was British and French capital and technology that helped to develop Donets coal and Krivoi Rog iron. Railroads moved eastward to unite the country and the Trans-Siberian reached Vladivostok in 1903. Baku was the world's largest oil producing field and Russia was exporting petroleum at the turn of the century.

The above facts have often been obscured by Soviet propagandists who wish to emphasize Soviet industrial accomplishments instead.

Since the 1917 revolution, the Soviet Union has made great advances in industrialization and her objective is to eventually surpass the United States, both in producer goods and in consumer goods, thus achieving the highest living standards in the world.

Her aims have been guided by a politically controlled economy that has been placed under a series of **five-year** and other plans.

After the revolution, private enterprise and foreign capital was somewhat encouraged to put the war-torn country back on its feet.

Beginning in 1928, with the first **five-year** plan, the economy became state controlled. This plan and the next two stressed heavy industry and capital goods production. Development of the Moscow and Donbas regions were stressed; but, as World War II and the threat of German invasion became a real possibility, industrial development moved to the Urals and the Kuzbas. The war stimulated the growth of these latter regions.

After the war, the aim was to restore the economy in the war torn western regions as well as to increase production in all areas. The emphasis continued to be on heavy goods and capital industries.

In 1958, a new Seven-Year Plan, lengthened to a Fifteen-Year Plan that will end in 1972, represented some departure from old objectives. Capital goods was still stressed, but for the first time consumer goods was also given consideration. With it would come a rise in living standards, better wages, shorter working hours, and greater agricultural productivity.

Another innovation in the economic structure initiated in 1957 was the regional planning unit or Sovnarkhoz. These 104 planning units were to unite economic and administrative functions in the Soviet Union and to coordinate all the industries within a given economic unit. This was to avoid previous duplication and to share transportation facilities, raw materials, labor force, etc. when possible.

A certain amount of regional specialization (but not overspecialization) was permitted which would help to strengthen the national economy and promote national self-sufficiency. This was an important departure from the concept of **regional self-sufficiency** or "national homogeneity" which represented the original road to national self-sufficiency.

Major industrial regions within the Triangle include the following:

The Southern Ukraine and Crimean District—an area of heavy and diversified manufacturing based on a wide variety of raw materials in the immediate vicinity, excellent water and rail connections, and outlets on the Black Sea. The industrial pattern is reflected in high urban density. There are 24 cities with populations greater than 100,000.

The Central Manufacturing District Around Moscow—an area of lighter manufacturing that depends upon excellent water, rail and pipelines for injections of coal from the Donbas, oil and gas from the Caucasus and ores from the Ukraine and the Urals to supplement poor local deposits.

The Volga-Ural Industrial Region—an area of more recent development beginning with World War II. The Volga region is the more recent and has a wide variety of industries. These include the traditional industries based on the processing of forest and agricultural commodities as well as petrochemical and engineering, oil refining and steel making. Power supply here is local petroleum and water power from the Volga. Rail lines move east to the Urals and west. Water transport is north-south.

The Urals represent heavy industry from local ores and coal brought by rail from Karaganda and the Kuzbas. Oil and gas come from Emba, Second Baku and Central Asia.

The Kuzbas Industrial Region—a developing region that is intended to become the third metallurgical base. Coal reserves here are the largest in the Union and water power is being developed on the upper Yenisei and Angara. More of the iron is coming from fields near Bratsk rather than by long haul from the Urals. Novo Sibirsk, the fastest growing city in the Soviet Union, is an excellent example of cities in the region. It lies astride north-south water transport on the Ob and east-west rail connections on the Trans-Siberian. This "Chicago of Siberia" has flour milling and meat packing, as well as chemical manufacture, steel manufacture, and engineering. Aluminum refining and manufacture of synthetic products are important in this region because of cheap power facilities.

The Industrial Far East—a relatively late comer as an industrial region, lies on the eastern apex of the Industrial Triangle. Some heavy industry is based on local coal, iron, and petroleum supplies. Most of the cities are water and rail centers.

Industrial regions outside the Triangle include the following:

The Leningrad Region—an old industrial region that began on foreign investment and technology under Peter the Great. Traditionally, a textile center, it still remains a city of light industry—textiles, synthetic rubber, machine tools, cellulose, fertilizer. Most of the fuel supply is now brought by rail from the eastern Pechora Fields. The region lacks the raw materials for heavy industry.

Caucasus and Transcaucasus Regions—areas noted for light industry and "specialty" items: wines, tobacco, silks, silverware, carpets; handicraft items which reflect the cultural differences here. Other cities like Baku, Krasnodar, and Batumi refine or transport oil.

Oasis Centers of Soviet Middle Asia—an area claiming the oldest cities in the Soviet Union. (Samarkand dates to preChristian times.) Most industries involve the traditional handicrafts or the making of cotton and silk textiles. Some have hydroelectric power stations and Tashkent has a steel mill.

In summary, Soviet industry has made great progress in the last fifty years. Whether she can surpass the United States in capital and consumer goods remains to be seen. The creation of a materialistic "paradise on earth" where the state and class struggle would cease, has made her pursue a program aimed at national economic self-sufficiency. Until the late 1950's, regional self-sufficiency was thought to be the key. Since then, regional self-sufficiency has been stressed in certain segments of the economy (like food production); but a certain amount of specialization is allowed as long as it fits into the scheme of national self-sufficiency.

Learning Activities

While teaching this concept, refer to maps of the Soviet Union that show kind and distribution of

Soviet agricultural products, minerals, location of industries and urban complexes. **Use Opaque projector.**

Oxford Economic Atlas. pp. 32-79

Kingsbury and Taaffe. **An Atlas of Soviet Affairs.** pp. 50-86, pp. 96-116.

Map work: Have the students place the areas of important mineral deposits, industrial regions, and urban concentrations on a large outline wall map. Use this map to discuss the relationships among these items.

Stimulate discussion around the following questions:

What are some problems of Soviet agriculture? Can they be solved?

What area of the world is most like the best agricultural regions of the Soviet Union?

If the Soviet farmland is poorer than that of the U. S., why is it the world's largest wheat producer? Why does Russia import wheat from other nations?

Where are the Soviet Union's major deposits of minerals and where are the major sources of power? What problems does Russia encounter in using them? (Many resources in East and most of population in West.)

Where are the major industrial regions of the Soviet Union?

What are the advantages and the disadvantages of a politically controlled economy?

Show selected filmstrips dealing with natural resources, agriculture, cities, etc. from Society for Visual Education, Chicago, Illinois. (See list of resource material for complete information.)

Concept V

The distribution of Soviet population, the economic growth, and the existing trade patterns cannot be fully understood without considering the historic background, the political philosophy, and the effect of expanding technology.

Content

While it is true that the most populous and well developed part of the Soviet Union lies in the more climatically favored western portion, it is also true that the western part has historically been the core of Russia.

Building on this legacy, the modern Soviet Union continues to fill in and expand the Triangle, while challenging the frontiers.

Russia's motives are several and the implications are of international significance.

UNIT V THE SOVIET UNION

Marx-Leninist economic philosophy, with its belief in dialectic materialism, insures the Soviet people an earthly utopia and a secure base from which to spread world communism. Soviet man, by following party directives, will inevitably succeed in overcoming his environment by exploiting all resources to the fullest extent. The following policies result:

A politically controlled economy.

Land was collectivized in order to control the kind and quantity of agricultural produce and to dispose of it to the best advantage.

Industry, mineral exploitation, and urban development were brought under government control. Growth and development were the results of planning and were not spontaneous as in western countries.

The Ural Mountains were developed in the 1930's and cities like Magnitogorsk were built.

The Soviet youth founded the city of Komsomolsk in the Soviet Far East during the same period.

Since World War II, the Volga-Baikal Zone is the fastest growing region in terms of industrial and urban development.

Many mining operations and small industries have been developed in remote areas of the far north, the east, and in Central Asia, even when not economically feasible by western standards.

There is an emphasis on science and technology as a means of developing all natural resources to the fullest extent.

These include scientific breeding of plants and animals to survive more rigorous climatic environments, the development of synthetics and substitutes for industry, the attempts to build roads and railroads in permafrost regions for mineral exploitations, and the control of streams for power, irrigation, transport, and flood control.

On the international scene it includes the building of sophisticated weaponry, the spectacular achievements in space science, and the development of a first-class navy.

An emphasis on economic self-sufficiency. Her foreign trade accounts for only 3% of the Gross National Product. Two-thirds is with the Communist bloc.

Other motives for her domestic and foreign policies can be attributed to a rising sense of nationalism and the desire to wield considerable influence in world affairs.

Decentralization by movement into the interior brings a certain amount of security against outside invasion, as well as fulfilling a sense of "manifest destiny."

Such accomplishments speak well for the Soviet Union which is trying to bring the world's emerging nations into her political camp.

To insure her present security, the Soviet Union has created an eastern European buffer zone and has set up the Council of Mutual Economic Assistance (Comecon) in answer to the European Common Market. Russia is the major influence in the Warsaw Pact, the counter defense to NATO. China, and her satellites have emerged as a serious threat to Soviet supremacy within the Communist ideological camp.

The Soviet Union has moved to strengthen her sphere of influence by extending credits and technical aid to Communist and developing nations of Asia, Africa, and Latin America since the 1950's. (i. e., Cuba, Egypt, Syria, North Viet Nam.)

A growing merchant marine fleet signals increasing importance in world trade and indicates greater economic stability at home.

Learning Activities

While teaching this concept, refer to maps of Russia that show territorial expansion throughout her history. Also refer to maps emphasizing regions of greatest economic growth in recent times.

Stimulate discussion around the following questions:

Is favorable climatic environment the only reason why western Soviet Union is better developed than the eastern part?

Is Communist ideology the only factor in explaining Soviet domestic and foreign policy?

Why is the Soviet Union preoccupied with developing her technology?

Name as many areas as you can where Soviet influence is established or on the increase.

Give reasons why the developing nations of the world might look to the Soviet Union rather than the United States for economic aid and political affiliation.

What are the geo-political implications of the struggle between the Soviet Union and China?

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Resource Materials

Filmstrips

295-1 Housing and Homelife

295-2 Schools and Pioneer Activities

295-3 Agriculture

295-4 Foods, Markets and Stores

295-5 Transportation and Communication

295-6 Four Cities (Moscow, Leningrad, Kiev, Tashkent)

295-7 Natural Resources

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Society for Visual Education, Inc., 1345 Diversey Parkway, Chicago, Illinois, 60614. 55-60 frames—20 minutes—$6.50 each. (purchase)

UNIT V THE SOVIET UNION

Films

Peoples of the Soviet Union

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University of Illinois Visual Aids Service, Division of University Extension, Champaign, Illinois. Rental—one day, $10.15; two days, $15.15.

Periodicals

Student References

Life Magazine
Life World Library Series: Russia
Look Magazine
National Geographic Magazine
Newsweek Magazine
Time Magazine
U. S. News and World Report
U. S. S. R. (U. S. and Soviet Exchange Magazine)

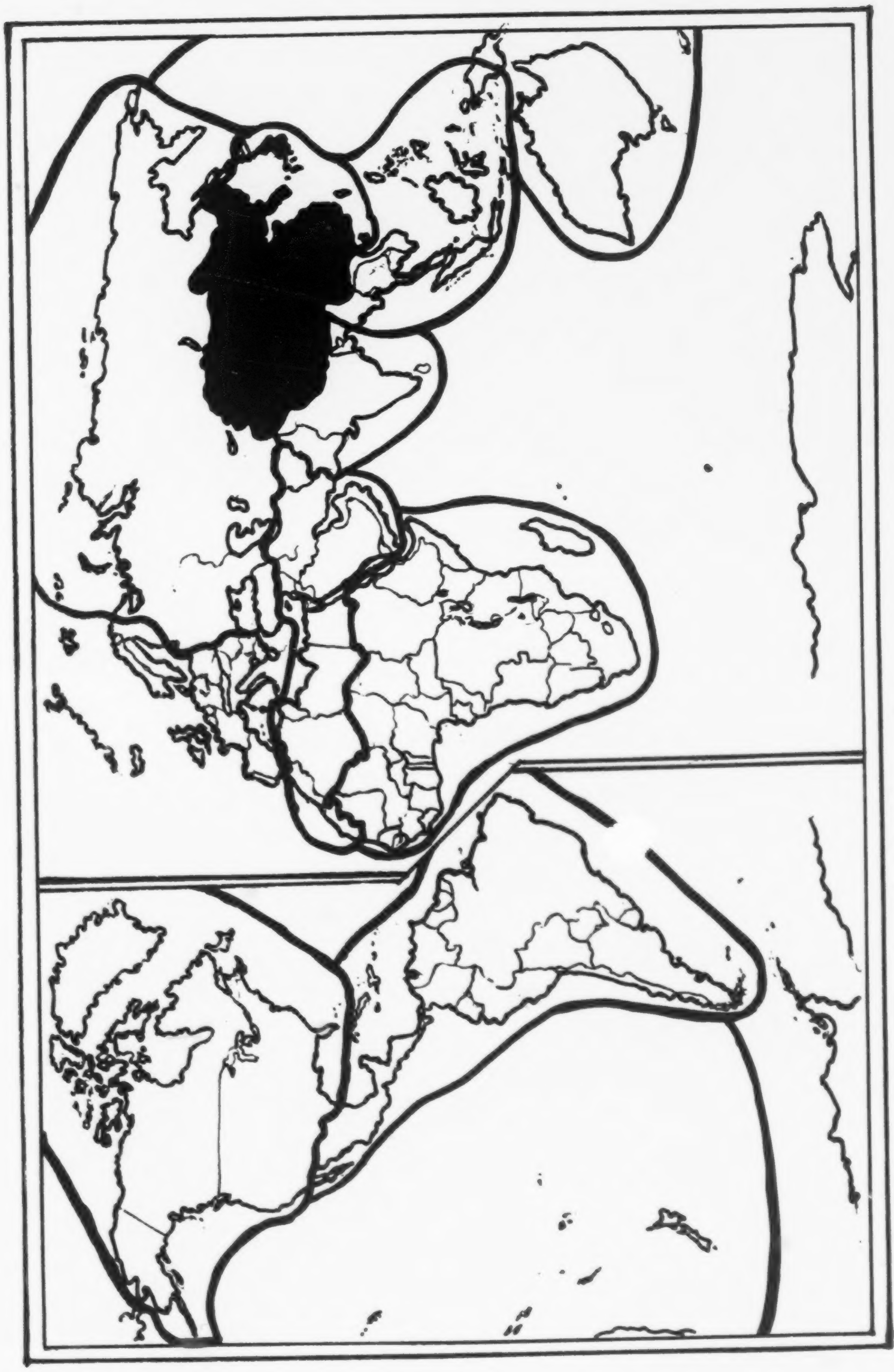
Other Teaching Aids

Desk outline maps for students; wall maps of Soviet Union, world, and other major areas for comparative study (Political-Physical).

Overhead and opaque projector with dark shades for windows.

Copying facilities for charts, graphs, maps, etc., from books, periodicals, and atlases.

UNIT VI EAST ASIA



UNIT VI

EAST ASIA

Suggested Time: Three weeks

RATIONALE

East Asia is a land of teeming millions, crowded conditions, political unrest on the Asian mainland, and of great international importance.

The mainland is an immense country of varied geographic conditions and many sparsely populated places. A study of why there is such dense population in some areas and sparse population in others, is definitely related to the physical features of this area. Most of the people are concentrated along major rivers and coastal lowlands. Population growth has far exceeded technological development and only in the current century has an emphasis been placed on scientific and technical skills as a method of alleviating these conditions.

East Asia, as a region, certainly justifies a careful study of its present and potential strengths. Every physical feature and every social problem can be found to some degree in this region. The study of this area should include possible causes for present conditions as well as constructive, potential alternatives where needed. It is a region of plentiful natural resources, localized technical skills, and an enormous part of our human family. In this unit, Japan and China are studied separately because of the tremendous differences between them.

CONCEPTS

I. Japan, about the size of California in area, is one of the most densely populated countries in the world.

II. Japanese agriculture is very intensive and highly productive. (Farms generally are small but the large applications of labor, skill, and capital result in a large output per acre.)

III. Japan's economy is highly industrialized and her population is highly urbanized.

IV. Mainland China — 750 million people — is the most populous and third largest country in the world and will perhaps double in population the next fifty years.

V. Mainland China is predominately an agrarian society with 80% of the people involved in producing food — leading the world, for example, in the production of rices, barley, and hogs. Because of the large areas unsuited to agriculture, most of the people are concentrated on or near the agriculturally favored areas near the eastern coasts.

VI. China apparently has the necessary raw materials to be a major industrial power but to date, capital accumulation, technological skills, and transportation systems have been of such a primitive nature that industrialization has been slow to develop.

VII. The National Republic of China is small in size, dense in population, and yet is comparatively high in Asiatic standards of living.

Concept I

Japan, about the size of California in area, is one of the most densely populated countries in the world.

Content

Although Japan's landscape seems to indicate mountains everywhere, there are some plains and valleys of rather small size, where most of the people live.

The largest of these plains are (1) the Kanto Plain inland from Tokyo, (2) the Kinai Plain west of Osaka and Kyoto, and (3) the Nobi Plain near Nagoya.

These plains contain alluvium, deposited by waters coming from the mountains; and this alluvium makes the best soils of Japan.

Smaller plains than those mentioned above are pocketed along the coast.

Other plains (piedmont) occur at the bases of mountains.

The islands were formed mostly by volcanic uplifts, with some local areas of (tectonic) folding and faulting.

The islands contain about 200 volcanoes of which 60 are still active.

Highest is Mt. Fujiyama at 12,388 feet — which has not erupted since 1707, but is still considered active because not enough (geologic) time has elapsed for the agencies of weathering to erode its cone.

Japan has over 1500 minor earthquake tremors or shocks annually; and severe earthquakes have occurred.

The above named plains and lowlands contain Japan's teeming millions. Rugged mountain areas have very few inhabitants because of difficult environment.

Japan is favorably situated in latitude.

Southernmost Shikoku lies at about 30° North Latitude, with a position in latitude similar to northern Florida.

Northernmost Hokkaido lies at about 46° North Latitude, with a setting very much like Cape

Breton Island of Maritime Canada.

Hence, Japan lies within the better parts of the middle latitudes.

Japan's insular position is noted by the following water bodies:

To the north is the Sea of Okhotsk, about 1100 miles wide.

To the west lies the Sea of Japan, about 600 miles wide at its broadest extent.

To the southwest is the East China Sea, about 500 miles wide.

To the south and east is the broad Pacific Ocean.

Both latitude and insular position have combined to give Japan a fairly favorable, though complex climate.

Southern Japan has the humid subtropical climate with long, warm summers, mild winters, and a well-distributed and rather heavy amount of rainfall.

Northern Japan has the humid continental climate with four seasons, having longer and colder winters with some snowfall; warm summers, and lighter but adequate rainfall.

These climates are modified by ocean currents and on-shore winds.

Learning Activities

Study the large Sculptural Relief Map of Japan. Note the pattern of coastal lowlands and cities. Does this arrangement tend to follow any geographic pattern? Explain.

Japan's core area extends from the Kanto Plain on eastern Honshu (upon which Tokyo is situated) westward through the Nobi (Nagoya) Plain, the Kinki District (Osaka and Kobe), and then along both shores of the Inland Sea as far as northwestern Kyushu. **Why is this called Japan's core area?**

On an outline map of Japan, **letter in the names** of the four major islands. Now, plot in the above plains and districts with their cities. Find the population of each city plotted. Do these population figures reveal the great concentration and population density?

Locate Kitakyushu on the southern shore of the Strait of Shimonoseki. Kitakyushu is a conurbation. What does this term mean? What factors have tended to bring about this conurbation?

The Kanto Plain is Japan's largest plain. **Do some research** on this plain. What is its area? What is its population density per square mile? What is the average size of farms on this plain?

Concept II

Japanese agriculture is very intensive and highly productive. (Farms generally are small but the large applications of labor, skill, and capital result in a large output per acre.)

Content

Japanese people are ingenious in providing a livelihood from so small a country.

Japanese agriculture, though small-scale in nature, is among the world's best.

Farms average about two acres in size, are multi-cropped, and well tended.

Fields are fertilized and crops are rotated when possible.

Leading cereals are rice, wheat, barley, and millet.

Most of the rice is grown in the south and central parts where more than one crop a year can be grown.

Other important crops are potatoes, sweet potatoes, soybeans, and peas.

Fruits grown are persimmons, oranges, tangerines, apples, and pears.

Special crops are tea, sugar cane, sugar beets, tobacco, peanuts, rapeseed, flax, peppermint, and pyrethrum.

Because of a lack of grazing space, few livestock are kept.

Poultry production and dairying are now being scientifically developed.

Horses, hogs, and sheep are of lesser importance.

Since the Japanese people cannot produce enough food from the land, they became excellent fishermen — among the world's best.

They engage in offshore fishing; also have floating canneries for long-range operations.

Edible seaweed is harvested; commercial pearl cultural has been developed.

Japan ranks first among the countries of the world in fishing, with 17% of the world's catch, or about 6 million pounds of fish.

Japan's interior is very mountainous, so there is not too much usable farm land.

Learning Activities
Explain

In regard to crops grown, how does the agricultural picture change in Japan from South or North?

Compare the average-sized farm of Japan (for example, the Kanto Plain) with the following farms of the United States in size: (a) a Corn Belt farm, (b) a Great Plains wheat farm, (c) a southern

Cotton Belt farm, (d) a Vermont dairy farm, and (3) a New Jersey truck (vegetable) farm. Which of these United States farms is most like the Japanese farm?

Draw a picture of a Japanese farm (rectangular diagram will do) showing buildings and field space devoted to each crop.

Compare a picture of a Japanese farmhouse with one in the Siberian Taiga. Note the difference in the use of materials used in construction. Why this difference?

Concept III

Japan's economy is highly industrialized and her population is highly urbanized.

Content

Japanese manufacturing has been an outstanding addition as a means of earning a livelihood.

In preparation to modern manufacturing, Japan already had excellent, long-established handicrafts.

She had large cities where people were seeking means of employment.

Manufacturing began in earnest in the early 1900's.

The Japanese imported Western technology, and her emulation of western industrial method caused her rapid rise as an industrial nation.

In the beginning, she captured markets already established by western manufacturers, she aimed at cheapness of price and cost of low-quality finished products.

During the depression years of the 1930's, Japan greatly expanded her industry of manufacturing.

Since World War II, Japanese manufacturing has greatly improved in quality.

Mining is important in Japan, and although her mineral wealth is not great, it is a means of making a livelihood through manufacturing.

Only 2% of Japan's income comes from minerals.

Coal, gold, and copper deposits are the largest.

Other minerals in small occurrences are chromite, sulphur, manganese, gypsum, magnesium and silver.

Long-range navigation introduced the Japanese to "foreign" contacts.

Visited other lands and noted strange or necessary products offered for trade.

Also, noted other people's needs and sought to furnish them.

Japan now needs certain foodstuffs, steel and other metals, lumber, petroleum products, commercial fibers, and other commodities.

She, in turn, offers manufactured goods in exchange for these commodities.

Merchant ships are now made in Japanese shipyards for other countries in order to establish credits and balance Japanese trade.

Japan's climates have favored forest growth—another example of favorable geographic position. The Japanese people have utilized their forest in providing a livelihood.

About 60% of Japan's surface is forested.

Climatic variation from coast to coast, or from valley to valley, makes for a variety of forest tree types, as does altitudinal zoning found in the mountains.

They have used some wood and poles as framework for houses; wood for railroad cross ties.

Many household articles and utensils are made of wood.

Charcoal burning is a source of income for charcoal is used for heating of homes and for cooking.

Trinkets and curios for tourist trade and export are made of wood.

Learning Activities

Read and prepare a "brief" of the article, "Japan 'Discovers' America in Its Scramble for Resources." (U. S. News and World Report, September 26, 1966)

Refer to the Oxford Economic Atlas (or a similar one) to determine Japan's world status in production (percent of world total) of the following agricultural commodities: Barley, potatoes, rice, wheat, apples, citrus, sugar (cane or beet), tea, tobacco, soybeans, rapeseed.

What do these figures indicate in regard to Japan's standard of living? **Explain** how they relate. (directly, or indirectly, through trade)

Refer to the World Economic Atlas for Japan's production of the following minerals: Petroleum, coal, iron ore, manganese, chromium, tungsten, copper, zinc, sulphur, gold, silver, mercury.

Do these figures indicate Japan's need for great mineral imports?

Study the World Economic Atlas to determine Japan's rank in hydroelectricity; in thermal electricity.

Do these indicate that despite Japan's lack of power fuels, she has much electrical power to devote to manufacturing?

Check Japan's output of manufactured goods as projected against other countries of the world. Check her production in the following categories: Manufacture of cotton thread, woolen yarns, man-made yarns, petroleum refining, steel production, aircraft production, shipbuilding, locomotive, motor vehicles, chemicals, cement, and paper.

Do these figures suggest that Japan is a great exporter of manufactured goods in exchange for foodstuffs and raw materials?

Why did it become imperative that Japan improve her quality of manufactured goods after World War II?

Why is electricity such an available and important source of power in Japan?

Consider the importance of water bodies as compared with Japan's arrangement of mountains. Does it appear to you that most of Japan's people (who are confined to lowlands along the coast) can better communicate with others by water more easily than by land? **Explain.** Would this situation tend to make the Japanese people "ocean minded?"

From a wall map or an atlas, **study the climates of Japan.** Now, see if you can find the total annual rainfall amounts for each of the following cities: (a) Kitakyushu, (b) Osaka, (c) Tokyo, (d) Sataka, (e) Aomori, (f) Sapporo, (g) Wakkanai. Also see if you can find an all-time high (summer) temperature reading for each of these cities. Also find an all-time winter low reading.

Explain why Hokkaido has a climate very much like coastal New England.

Read materials regarding "Japanese Pearl Culture," which was begun in 1890 by Kohichi Mikimoto. What part does our city of Memphis, Tennessee, contribute to the artificial pearl industry of Japan?

Concept IV

Mainland China—750 million people—is the most populous and third largest country in the world and will perhaps double in population the next fifty years.

Content

Mainland China (the Chinese People's Republic) is an immense country of varied geographic conditions and with sparsely inhabited spaces.

Although China is not much larger than the United States, she has almost four times as many people.

Mainland China has an area of 3,691,502 square miles, including Sinkiang, Tibet, Inner Mongolia, and Manchuria.

The country extends in latitude from 18° North at the southern extremity of Hainan Island, northward to about 53° North at the northern border of Manchuria.

Although China has a population that exceeds that of any other country of the world, most of the people are crowded into about one-sixth of the country's area, because of unfavorable climate and terrain in many parts of the country.

The central part of China is very rugged and contains the Tsinling Shan Range to the north of the Yangtze Valley, and the Plateau of Yunnan in the southern interior, where in both instances, population is relatively light.

Tibet, with the lofty Nan Shan Range on the north and the Kunlun Range on the southwest, and the very high Himalayas on the south, consists of a high plateau too high and too dry and windswept for dense population. The few who live in Tibet inhabit the deeply-entrenched valleys.

Sinkiang to China's west is mostly desert basin, divided into the Tarim Basin on the south and the Dzungarian Basin on the north with the lofty Tien Shan Range separating them. Here the population is concentrated at oases located at the bases of these mountains.

Inner Mongolia which lies to the north of the Great Wall, is mostly desert.

The 48 million inhabitants of Manchuria live in the river valleys and along the coast.

Despite Mainland China's total population, it is unevenly distributed, and many areas, because of unfavorable living conditions are sparsely inhabited.

China's almost empty western spaces tended to isolate or segregate China from Central Asia.

Learning Activities

On a World Map **study China's geographic position.** How does Mainland China compare in latitude with the United States? Does China have a two-ocean frontage as has the United States? Does the western interior position suggest why her western lands are so dry? Explain.

On an outline map of Mainland China **locate her** three major rivers, the Tsinling Shan Range and the Plateau of Yunnan. Letter in the Yellow Sea, the East China Sea and the island of Hainan.

Also letter in her outlying provinces of Tibet, Sinkiang, and Inner Mongolia. Now, locate the Tien Shan Range, the Dzungarian Basin and the Tarim Basin.

Study a map of Sinkiang in a large atlas. What is its population? Note the ancient caravan routes and how they followed the base of the Tien Shan to the north and the Ahyn Tagh to the south. Note the following towns along the routes: Hami, Turfan, Yenchi, Kuche, Wensu, Pachu, Sufu, Yingshia, Soche, Yehcheng, Yutien, and Yumen. What services did they perform to caravans? Why are they located "just where they are?"

Read about China's Great Wall. When and why was it built? Did it serve its purpose?

Refer to a map of Tibet in an atlas. Also read about Tibet. What is its population? What is its general elevation? Note the caravan routes across Tibet. What is meant by Nearer Tibet? Farther Tibet? Locate the city of Lhasa. What is its importance?

Concept V

Mainland China is predominately an agrarian society with 80% of the people involved in producing food—leading the world, for example, in the production of rice, barley, and hogs. Because of the large areas unsuited to agriculture, most of the people are concentrated on or near the agriculturally favored areas near the eastern coast.

Content

China's 770,000,000 people are closely associated with three great Chinese rivers — the Hwange Ho, Yangtze Kiang, and Si Kiang, and also with China's east coast.

River valleys have environmental factors that favor human habitation.

All have alluvial soils that favor field crop agriculture.

The Hwang Ho Valley possesses Humid Continental Climatic conditions that favor crops that need less water — like wheat, barley, millet, soybeans, and kaoliang, rather than rice.

The Yangtze Valley has a Humid Subtropical Climate that favors rice during the summer, and a wheat crop during the mild winter.

The Si Valley is monsoon tropical, where the growing season is continuous and where rice is a major cereal.

Coastal lowlands within similar latitudes of each river valley grow similar crops.

Fruits — especially citrus, and also sugar cane and sweet potatoes are grown in southern China (south of the Tsinling Shan).

White potatoes are becoming an important food crop of the north.

With little land available for livestock, few are kept — except for pigs and chickens, where a few are raised on each farmstead.

Since river valleys and coastal plains favor food production, most of China's people have crowded into these areas.

Chinese living on rivers and along the coast supplement meager food production from the land by fishing and by raising ducks which become scavangers along the waterfronts.

Most of China's great cities are either coastal or river towns.

Her transportation is largely of a water-borne type, and the Yangtze is one of the world's busiest rivers — plied by fishing craft, junks, and larger vessels.

China's agriculture, formerly much like the micro-pattern of Japan's, has been drastically changed under the present regime.

Before China became Communistic, the farms were small, like those of Japan, except in drier North China.

In Green China, south of the Tsinling-Shan, these farms averaged about three acres and were mostly tilled and tended by hand.

Chinese farmers almost had a veneration for the "Good Earth" which they worked as a family unit.

Again people farmers all their lives, could face old age with a feeling of security among their children, many of whom worked the same farm.

They looked toward a venerable old age.

Chinese Communists eradicated small farm boundaries and developed communes with destruction of private ownership.

People were forced to work within these communes as ordered, with punishment for civil disobedience if they failed to follow orders.

Frustration, loss of face, and destruction of sacred traditions left these people "without heart."

Family ties were loosened, for Communists taught children not to venerate parents or elders.

As a result of this malcontent, crop yields were low, for the farmers had little interest in their daily work.

To satisfy general discontent, the Communists modified the agricultural system.

Peasants were allowed to return home and keep a few of their belongings.

Small plots of land were allotted each farmer to work in his spare time with his own tools.

Farmers could sell the surplus from these small plots in free markets.

Communes too large for proper operation were broken down into smaller cooperatives.

Despite these changes for the better, there is still not enough food for the people.

Food shortages or crop failure in one area is not relieved by surpluses in another.

Because of the country's poor transportation system, it is impossible to move surpluses of perishable foodstuffs to an area of famine.

Learning Activities

Study an Economic Atlas for China's production of rice, wheat, tea, cotton, and wool. Study a population density map. What correlation exists between population density and food production?

In order to **compare** the three climatic types of eastern China (humid continental, humid subtropical, and monsoon tropical) refer to climatic statistics for either Peking or Tientsin (North), either Wuhan or Shanghai (Central), and Canton (South). How does each compare in (a) total annual rainfall, (b) length of growing season, (c) the all-time high temperature, and (d) the all-time low reading?

Why is China north of the Tsinling Shan called Brown China? Why is the part south of the Tsinling Shan called Green China?

Plot on an outline map the following cities: Peking, Tientsin, Kaifeng, Sian, Nanking, Shanghai, Wuhan, Chungking, Hangchow, Changsha, Foochow, Amoy, and Canton.

Draw a red line under the ocean ports; a green line under river ports. What is the population of Tientsin and Shanghai? Read to determine if these cities are "first-class" ocean ports. Why or why not? What is the population of Wuhan? (Like Kitakyushu of Japan) Wuhan is a conurbation. What former separate cities are now included within the conurbation of Wuhan?

Read any two of the following articles in the U.S. News:

"Life in a Red Commune." April 6, 1959.
"Inside a Chinese Commune. — Gruel and $2.00 a Month." May 25, 1959.
"Starvation in Red China: Desperate Reds Turn West." May 15, 1961.
"The Famine Makes a Report on Why Red China Is Starving." July 9, 1962.
"What's Really Going on Inside Red China." September 12, 1966.

How did the farm picture change when agricultural communes were set up? Why did discontent develop among the farmers?

Has the movement to send farmers back home and to allow them to tend small fields of their own really benefited food production? Had a similar movement taken place within the Soviet Union as a departure from total collectivized farming?

Read from World Regional Geography by Wheeler, Kostbade, and Thoman, pp: 400-01, of the impact of the Communist system on China's peasants. In an oral report comment of these effects.

The Chinese people hope to extend food production through irrigation, and by means of flood control. This movement requires the construction of dams, reservoirs, levees and projects of afforestation. What problems of expense, engineering skill, and rehabilitation would be required in each case?

Concept VI

China apparantly has the necessary raw materials to be a major industrial power but to date capital accumulation, technological skills and transportation systems have been of such a primitive nature that industrialization has been slow to develop.

Content

Industrially, despite advances made under Communism, China is still in its infancy.

Before Communism came to China, most of the manufacturing was of the handicraft type.

Consisted of common goods like cotton cloth, leather goods, wooden articles, porcelain, and paper.

The people were especially noted for excellent chinaware, lacquer, and goods of delicate artistic design.

At the turn of the 20th century, European and American capital came to Shanghai, a leading coastal city, and at the outbreak of World War II, about 85% of the factories were located in that city (Shanghai).

After this war, when the Communists came into power, they increased manufactural output with a concentration on heavy-type goods.

Coal mining, mostly from Manchuria at that time, was increased to provide fuel and power. (The Fushun open pit mine in Manchuria was a major producer.)

Iron ore mining, again from the Anshan District of southern Manchuria, was greatly increased and now China produces about 5% of the world's steel.

Tunsten and antimony, in which China leads the world, are excellent ferro alloys.

Despite these rapid industrial strides, China still has a long way to go.

She must improve techniques in processing, fabrication and manufacturing.

She must improve transportation facilities so that, manufactural raw materials can be concentrated or centralized for industry.

At present she has no rank in the manufacture of transportation equipment.

Railway mileage and highways are inadequate.

Most of the transportation is by water — either by river or intracoastal.

Learning Activities

Refer to an Economic Atlas (e.g., the Oxford World Economic Atlas) for China's production of coal, iron ore, tungsten, molybdenum, tin, and asbestos.

On an outline map of China **plot in and letter** the major areas of coal production. Note the heavy coal deposits in the provinces of Shensi, Shansi, and Szechwan. Does this coal location map show that the widespread occurrences would avoid long shipments to many of China's cities? Is this coal of a good or poor quality? How does China rank in world coal production?

Letter in on your outline map China's major areas of iron ore production. Now compare these with the coal areas. Would the movement of iron ore to the coal involve a long freight haul? What is China's rank in world production of iron ore?

China leads the world in the production of tungsten and antimony. How are these minerals used?

Study the world map to determine the status of China in the production of tin, mercury and asbestos. How are each of these used in industry?

On the basis of China's mineral resources, do you think that she could become a heavily industrialized country?

Check Findings

All must remember that in any great program for industrialization, a country must have sources of power. With this thought in mind, examine the Economic Atlas to determine China's status in the production of hydroelectricity and thermal electricity. What about her petrolem supply? Do your findings suggest that she must rely very heavily upon her coal resources for industrial development?

Now let us consider China's low status in transportation and communication. **Check the atlas** to determine if China ranks at all in the manufacture of aircraft, ship building industries, the making of locomotives or motor vehicles.

Read and report on any one of the following articles found in the **U.S. News & World Report.** Although these articles are rather "old", they will give you an idea of China's start in industrialization. How has China's industry improved since the time that these articles were written?

"China's Back Yard Steel Boom." January 30, 1959
"New Crackdown in Red China: Now It's the Workers' Turn." May 9, 1960.
"Signs of a Red Crack-Up in Red China." April 30, 1962.
"China versus Russia: The New Game." July 29, 1963.
"Just How Dangerous is Red China?" October 24, 1966.

Concept VII

The National Republic of China is small in size, dense in population, and yet is comparatively high in Asiatic standards of living.

Content

The National Republic of China on the island of Formosa (Taiwan) has an area of 13,885 square miles and a population of about 12,500,000.

Formosa, formerly a Chinese possession, was lost to Japan in 1895.

> Japan developed plantations (mostly tea and sugar cane) and before World War II had established manufacturing.
>
> With Japan's defeat, Formosa was again made a Chinese possession, and China inherited Japan's agricultural and manufactural improvements.
>
> Some of the people are native residents who remained after Japanese ownership ended; others are Nationalist Chinese who fled the Mainland when China was taken over by the Communists.
>
> The island has three major cities—Taipeh (Chilung) the capital, with a population of 1,120,000; Kaosign, a seaport with 275,000; and Tainan, an agricultural center of 230,000.

Because of high mountains of block nature with a rugged side facing the east coast, most of the farmland lies on the west coast and on the north and south tips or lowlands.

> Land reforms and land ownership under the Nationalists improved agriculture.
>
> In southern Insular China, three crops of rice can be grown annually; or else rice alternated with peanuts, soybeans or sweet potatoes, with vegetables intertilled.
>
> Hillsides or slopes yield tea, bananas, oranges, and pineapples.
>
> Most farms have a few pigs, chickens, and ducks.
>
> A special crop, the mushroom, has become an important item of export.

Manufacturing has been expanded under the Nationalists and is increasing at the rate of 10% annually, through Japanese and American backing.

> Manufacturing includes autos, refrigerators, air conditioners, electrical appliances, pharmaceuticals, cotton yarns, and lumber products.
>
> The average farmer is banking 30% of his cash income; and even though factory labor is cheap, these factory workers live moderately.

Manufactured goods are similar to those of Japan and Hong Kong in price and quality, and are being exported.

American dollar aid has been withdrawn, but the country still has U.S. Air Force and Naval units for protection against Red China.

The standards of living are higher than any other country of the Far East, except for Japan.

Learning Activities

Draw a large scale map of Insular China.

Letter in the Tropic of Cancer. Does this suggest the island's tropical position. **Look up** climatic data for the city of Taipeh (Chilung). What is its annual average in rainfall? The all-time high reading? The all-time low?

About how wide is Formosa Strait which separates Insular China from Mainland China?

How far is Insular China from Luzon (in the northern Philippines)?

On this map **draw in** the Pescadores, islands off the west coast. These are also a part of Insular China. Letter in and give the name and elevation of the highest mountain peak.

Locate by dot and letter in the following cities: Taipeh (Chilung), Hsinchu, Taichung, Chiai, Tainan, Kaohsuing, and Pingtung. Connect these towns with a railroad line. Here in these lowlands is where the island has its greatest economic development.

Why are there fewer cities on the east side of the island? Locate east coast towns of Ilan, Hualien, and Taitung. Are they connected by a railroad line as are the west coast towns?

Read about the native peoples of this island before the recent development took place. Earlier Chinese called them Sheng-fen or wild men of the mountains. Why? What peculiar custom did these people have that caused them to be feared? by Chinese and Japanese alike? What is their status today?

LEARNING ACTIVITIES FOR ALL UNITS ON EAST ASIA

Note: Flexibility must be exercised in order to provide for interests of students.

For those interested in Far Eastern cultures, suggest readings and reports on Chinese and Japanese arts and crafts in the making of porcelain, paper articles, silk, and jewelry.

For the archivist or historian, what European traveler in China reported, "they cause black rocks to burn," and "they make a cloth from rocks — and this cloth is cleansed and whitened by tossing it into the fire, where it is whitened but not consumed"?

For the future businessman or businesswoman, suggest an Import-Export map of one of the countries studied. List the leading ports, with incoming goods and outgoing commodities.

For future urban planners, compare the downtown section of a city like Shanghai with that of lower New York City. What differences in building structures exists and why these differences?

Three large Japanese cities are located on Tokyo Bay — Tokyo, Yokohama, and Yokosuka. How do each of these function? Would you call this arrangement a conurbation?

Arrange for a debate on the following subject: Which of these three men did the most good for his country — Dr. Sun Yat-Sen, Chiang Kai-Shek, or Mao Tse-Tung?

To develop an awareness of newspapers and magazines in a study of current affairs in the Far East, ask students to bring to class and be able to discuss news articles appertaining to the Far East's current events.

Arrange a China-Japan section on the classroom bulletin board.

Secure a resource person to address the students, someone who has either come from the Far East or has been there for a definite purpose. After the address, encourage the students to ask questions.

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"Japan: East Is West." 23 minutes (color).
"Japanese Family." 23 minutes (black and white).
"Face of Red China." 54 minutes (black and white).

Encyclopaedia Britannica Films, 1150 Wilmette Avenue, Wilmette, Illinois.

"People of Western China." 11 minutes (black and white).
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University of Michigan Audio Visual Center, Frieze Building, 720, East Huron St., Ann Arbor, Michigan.

"Rice Farming in Japan." 12 minutes (color).

UNIT VI EAST ASIA

Coronet Instructional Films, 5 East South Water Street, Chicago 1, Illinois.

"Japan: The Land and the People." 11 minutes (black and white).
"China: The Land and the People." 13 minutes (color).

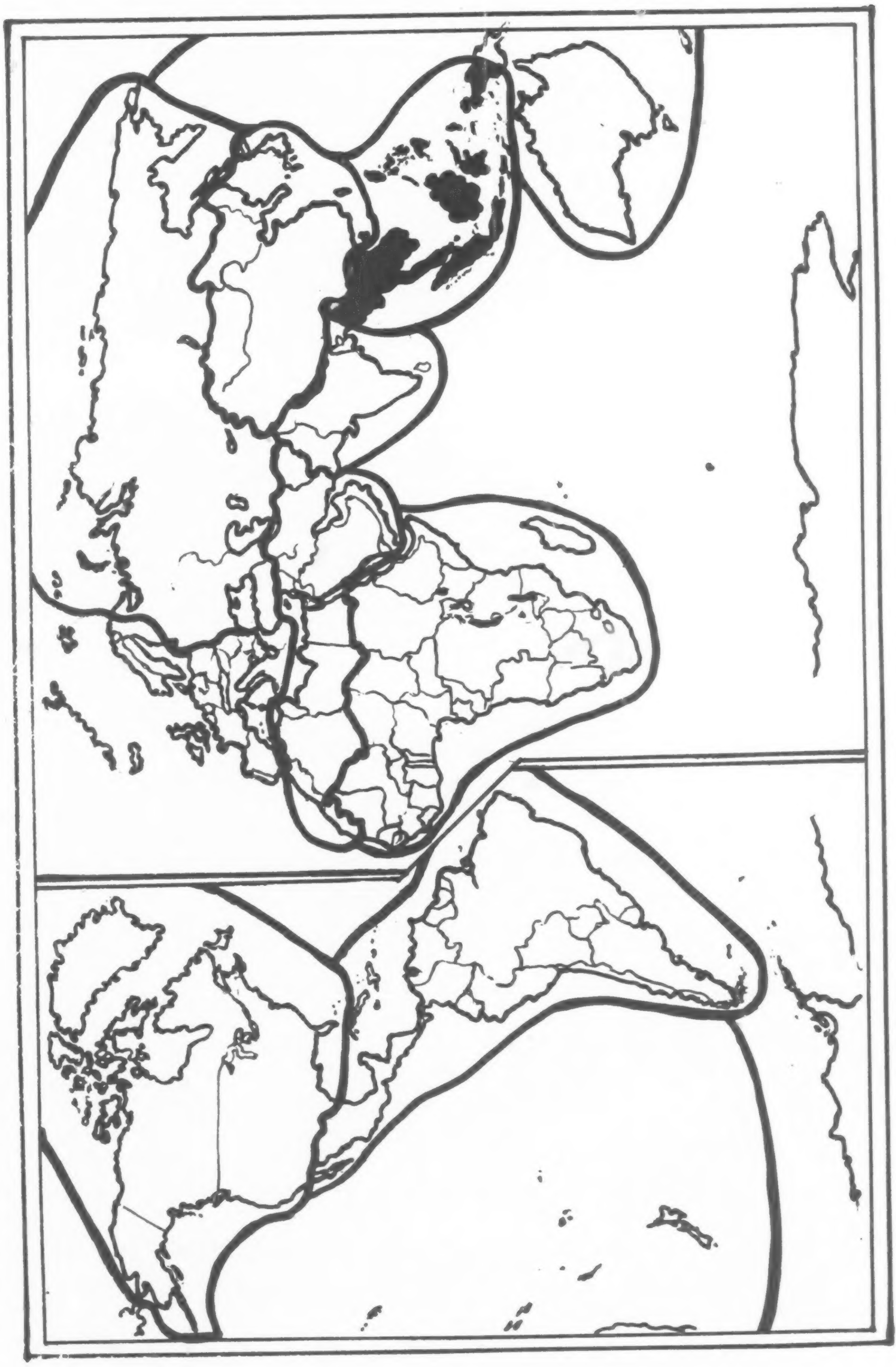
Imperial Film Company, Inc., 321 South Forida Avenue, Lakeland, Florida.

702-3 "Manila, Hong Kong and Singapore."
702-6 "Japan."

Society for Visual Education, Inc., 1345 Diversey Parkway, Chicago 60614.

CH 288-1R - Agriculture and Rural Life — filmstrip — 60 frames.
CH 288-2R - Cities and City Life — filmstrip — 60 frames.
CH 288-3R - Resources, Industries, Transportation, and Communication — filmstrip — 60 frames.
CH 288-4R - Land of Change and Growth — filmstrip — 60 frames.
296-14 - Living in Japan — filmstrip — 60 frames.
296-13 - Living in China and Korea — filmstrip — 60 frames.

UNIT VII SOUTHEAST ASIA



UNIT VII

SOUTHEAST ASIA

Suggested Time: Two Weeks

RATIONALE

Why Southeast Asia as a unit? It is tropical area between Burma and the Philippines, extending from the Tropic of Cancer to approximately 10° S. Latitude having no unifying factor other than its location. It is an area fragmented physically, politically, culturally, and economically. Some 200,000,000 people live in this richest of tropical lands, having been a target rather than a center of political power. Its principal economic center is the great port of Singapore, developed during the "heyday" of colonialism.

CONCEPTS

I. The 200,000,000 or 75% of the people of Southeast Asia are unevenly distributed on islands and peninsulas, being concentrated mainly on alluvial plains and fertile slopelands. Seventy-five percent are farmers and only 12%-15% live in cities, usually one major urban center in each political unit, thus relatively isolated.

II. Tropical conditions of high temperatures and abundant rainfall with the major populated area close to ocean waters have contributed to making this the most important area of tropical plantation agriculture in the world.

III. Geographically, mountain ranges and volcanic peaks rise above sea level to create the many peninsulas and islands along whose shores the majority of people live.

IV. Since Southeast Asia has no underlying unifying factor, they are now experiencing the "growing pains" of nationalism, caught between the ideologies of democracy, and communism.

Concept I

The 200,000,000 or 75% of the people of Southeast Asia are unevenly distributed on islands and peninsulas, being concentrated mainly on alluvial plains or fertile slopelands.

Content

Only a few small areas — flood plains, deltas, coastal plains, or interior alluvial filled basins — have a density of over 500 people per square mile, leaving large areas still available for settlement and utilization.

Inhabitants of this area need to expend little energy to protect themselves from cold — homes and clothing need only protect from sun and rain.

Learning Activities

Map Study

Locate on an outline map the nations of Southeast Asia.

Locate on an outline map,

1. Densely populated areas
2. The principal cities

Make These Correlations:

Compare the size (area) of Southeast Asia with that of the U.S.
Compare the population of Southeast Asia with that of the U.S.
Compare the latitude of Southeast Asia with that of the U.S.

Discuss These Questions:

How much time do people of Southeast Asia need to spend to obtain shelter and clothing?
When did Southeast Asia become important in world history?
Why is this area so lacking in political unity?
Why are the political units and major urban centers relatively isolated?

Make climatic charts for Singapore and Kansas City or St. Louis, for comparison.

This area has been known as the source of spices. List the various spices coming from these lands and locate the principal islands known for particular spices.

Concept II

Tropical conditions of high temperatures and abundant rainfall with the major populated areas close to ocean waters contributed to making this the most important area of tropical agriculture in the world.

Content

Among the many peoples of Southeast Asia, the Malayans and Indonesians are dependable workers and find climatic conditions favorable for two-, three- and even four-crop agriculture annually.

Under European supervision during colonial control, plantation agriculture developed and flourished on some of the islands and peninsulas to make this area one of the greatest tropical plantation areas in the world. (Refer to Unit III, Concept I)

Dense tropical forests make difficult the clearing of land; they also tend to overwhelm the cultivated lands.

Abundant rainfall leaches the soil so that if the land is to produce to capacity, fertilizers must be provided.

Improved and extended agriculture can provide food surpluses for other areas of dense population.

Many fish inhabit the shallow waters bordering the islands and peninsulas; canning and refrigeration will help get more fish to areas needing food.

Map Study

Locate on an outline map

1. Three delta plains producing a surplus of rice
2. Areas of principal rubber plantations
3. The principal fishing grounds

Prepare a map showing areas of fertile soil

1. Deltaic and alluvial soils
2. Alkaline lava and ash soil
3. Soils developed on limestone and coral

On the same map indicate the areas having infertile soil or too rugged relief for agriculture.

On any map of SE Asia, find the distance from the center of the larger islands to the coast; from the center of the peninsula of Indo-China to the coast

Make These Correlations:

Compare the maps of population density with the soil fertility.
Compare the map of rubber producing areas with a relief map.
List 8 to 10 products obtained from the natural forest. Correlate the forest with the climatic conditions.

Discuss These Questions:

How can the agricultural areas be enlarged?
How can the present methods of agriculture be improved to increase production?
What other crops besides rubber trees are grown on plantations?
Can crops providing higher calorie yield per acre be introduced in Southeast Asia?
In what ways may Southeast Asia work to supply the overwhelming need for imported foods in the more densely populated areas of China, Japan, and India?
What has been the effect of nationalization on the economy of these nations?
Why aren't cattle produced in Southeast Asia to supply meat and milk for protein needs?
Do you think Southeast Asia would be a good market for mineral fertilizer? Why?
Do you think large land holdings operated as plantations or small owner-operated farms are the best way to farm the land in Southeast Asia?

Concept III

Geographically, mountain ranges and volcanic peaks rise above sea level to create the many peninsulas and islands along whose shores the majority of people live.

Content

Southeast Asia, being one of the world's most active seismic and volcanic areas, experiences many volcanic eruptions and earthquakes, sometimes responsible for destructive sea waves known as tsunamis.

The Malay peninsula and neighboring islands are one of the world's two important tin producing areas.

Borneo, Sumatra, and Java produce oil — with many offshore potentialities not yet explored.

Tropical lands have climatic conditions favorable for the development of bauxite — the ore of aluminum — found on islands east of Sumatra.

Ocean transportation is one of the cheapest means of moving surplus products to areas of consumption.

Southeast Asia lies at the junction of widespread trans-Pacific and Western Pacific routes with the principal routes to the west.

Learning Activities

Map Study

On an outline map, locate the oil producing lands.
On another outline map, designate the tin producing areas.
On the same map, locate the bauxite deposits.
On an outline map of SE Asia, locate the principal rivers and larger streams that may serve as a means of transportation from the interior to the coast.
Locate on an outline map of the world:
  Singapore
  Trade routes from Singapore to Hong Kong, Yokohama, Manila, Perth, Rangoon, Colombo, Suez Canal, Vancouver, San Francisco, Panama, Valparaiso, Cape Town.

Make These Correlations:

Relate the tin producing areas to the Tenasserim Mountains.
How are the oil-producing areas related to the mountains and plains?
In the development of bauxite, what kind of bedrock is essential; what kind of climatic conditions have been necessary to produce bauxite?
Relate the tin, oil, and bauxite producing areas to ocean transportation; to ocean ports.

Discuss These Questions:

Investigate the method of tin production in Southeast Asia and explain why this area is so much more important to the world's tin production than is Boliva.
Where does the tin go from Southeast Asia for conversion to metal?

How has foreign capital and technology helped in the exploitation of oil, tin, and bauxite?
What effect has nationalization had upon mineral exploration and development?
Why was Japan so interested in Southeast Asia before and during World War II?
What effect would a canal across the Isthmus of Kra have on Singapore?
What kind of boats or ships are used for fishing? For coastal shipping? For river traffic?

Concept IV

Since Southeast Asia has no underlying unifying factor, they are now experimenting the "growing pains" of nationalism, caught between the ideologies of democracy and communism.

Content

Although predominantly Malay, probably a mixture of Mongoloid, Caucasoid, and Negroid stock, there are more recent and minor groups of Mongoloid and Caucasoid peoples contributing to a variety of customs.

Most of the mainland peoples are Hindus or Buddhists, influenced by the bordering Indians and Chinese while the majority of the Indonesians are Moslem, a religion introduced by the Arabs. Christianity has spread since the discovery and control by western European nations. A large percentage of the people, however, are pagans.

The Southeast Asia area has been controlled by the Arabs, who still constitute a wealthy group; by the Chinese, who still control most of the commercial activities; by the Europeans who introduced plantation culture and a half-dozen foreign languages; and most recently by the Japanese during World War II.

Southeast Asia has never been united as an ancient empire; the idea of "nations" of people is relatively new. Even though the realities of the present world may suggest cooperation and federation, the bases for such unity simply do not exist.

Learning Activities

Distinguish between Melanesians, Micronesians and Polynesians. Investigate their origin to see if they have some common background with the ancient peoples of Indonesia.

Study the development of the Malays as a product of the amalgamation of Mongoloid, Caucasoid, and Negroid stock.

Investigate the invasion of Southeast Asia by the Arabs and the resultant introduction of the Moslem religion.

Discuss These Questions:

How does it happen that the Chinese control most businesses and commercial activities?
With the rise of nationalism, what will happen to the minorities if each host country insists that the resident aliens become citizens or return to their "homeland"?

Are there some good geographic reasons for cooperation and possible federation of states of this area?

RESOURCE MATERIALS

1. Maps
    - World Maps
        - Population
        - Temperature
        - Rainfall
        - Vegetation
        - Relief
        - Soils
    - Southeast Asia Maps
        - Population
        - Temperature
        - Rainfall
        - Vegetation
        - Relief
        - Soils
        - Ethnic Groups

2. Economic Atlases

3. Films: **Indonesia: New Nation of Asia,** Ency. Brit. Film
    Rice in Today's World, Coronet
    On various products of SE Asia

4. Commercial Producers for handbooks, statistics, films, samples.
    - Firestone Rubber
    - Quinine
    - Sugar Cane
    - Tea and Coffee
    - Spices
    - Rice

5. Travel Firms — books, pictures, information

6. United Nations
    - Books
    - Reports
    - Films
    - Maps

UNIT VII SOUTHEAST ASIA

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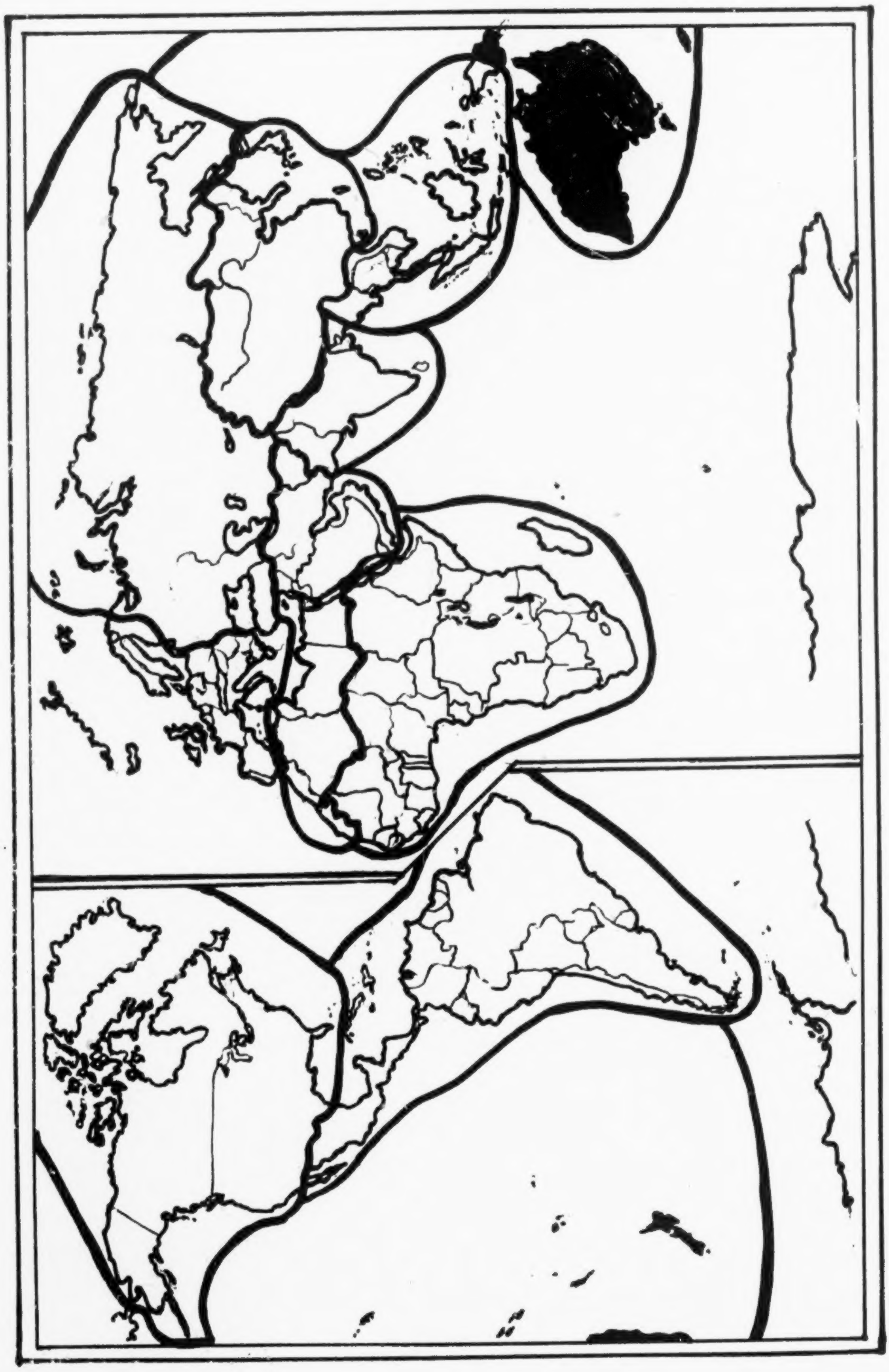
UNIT VIII THE PACIFIC WORLD



UNIT VIII

THE PACIFIC WORLD

Suggested Time: Two Weeks

RATIONALE

The Pacific Ocean, largest and deepest of the oceans, is the largest single earth feature. It encompasses almost one-third the total area of the earth. The Pacific World is comprised of thousands of islands which dot this ocean. The islands occur singly, in clusters, and in chains, and some have an insular position to a continent and are considered a part of that continent. Those which are not so related are those which, in general, are considered as constituting the Pacific World region. Most of these islands are in the southwestern part of the ocean, near or south of the equator.

The islands of the Pacific World are of strategic value in commercial maritime and air transportation as well as for the tropical products and valuable mineral deposits. Certain islands also possess other potential or existing functions: as sites for weather stations, as launching and tracking stations for missiles and space satellites, and as bases for surveillance of the seas. The seas also are a veritable storehouse of wealth, awaiting man's exploitation.

The former European empires are greatly diminished, leaving these peoples free to form alliances and to establish working relations of their own choosing. Many of the smaller island groups are still held in trusteeship. Perhaps, in the near future, they will attain independence, but many will, no doubt, depend upon outside support to maintain this independence. Also, with further oceanographic studies, emphasis of Pacific importance may again be shifted, necessitating a re-evaluation of the role of this world region.

CONCEPTS

I. The Pacific World is a vast water area—the largest of the world regions but has the smallest total population.

II. Despite its vastness, the Pacific World was late in being discovered by Europeans, and was among the last parts of the world they explored and colonized.

III. The Pacific World has played a constantly changing role in world affairs: an obstacle, a seaway, a highway (for the exchange of ideas, cultures and commodities), an air route, a buffer, and an area possessing locations of strategic importance.

IV. The Pacific World is a major supplier of certain tropical crops and minerals which are valuable and necessary to industrialized nations.

V. Australia, the world's only politically unified continent, is the dominant land mass of the Pacific World.

Concept I

The Pacific World is a vast water area—the largest of the world regions but has the smallest total population.

Content

The Pacific Ocean is the largest single earth feature.

It covers approximately one-third of the earth's surface.

It is approcimately the same size as the Atlantic, Indian, and Arctic Oceans combined.

Its area is greater than the combined land masses.
East to west it measures 10,000 miles along the equator and 12,500 miles—half the distance around the earth—at the equator—from the Malay Peninsula to the Panama Canal.

Roughly triangular in shape, its apex is the Bering Strait, its eastern border is the west coast of the Americas, its western border is the shoreline of the Asiatic mainland, and its southern limit is disputed.

Measuring south to the 40th parallel, it encompasses approximately 56 million miles and has a north to south extent of 7,350 miles.

Measuring south to the Antarctic Circle, it encompasses approximately 69 million miles and extends 9,300 miles north to south.

The Pacific Ocean, in addition to being vast in expanse, is relatively empty of land masses so that distances between islands and island groups are much more prominent than the area of the land masses themselves.

The Hawaiian islands, 20 in number, extend through 10 degrees of latitude in a southeast to northwest direction for 2,000 statute miles, yet have a combined area of 6,435 miles.

The 7,100 islands of the Philippine Archipelago extend 1,150 miles north to south and have a total area of 115,600 square miles.

The 17 islands of the Mariana chain extend 440 miles, and have a total area of 28 square miles.

They lie 1,400 miles from the Philippines, 1,350 miles from Japan, and 5,000 miles from the United States.

Guam, somewhat peanutlike in shape, is 28 miles long and varies in width from 4 to 8 miles.

The Pacific World is made up of thousands of islands that dot the Pacific Ocean.

They vary in size from the island continent of Australia to tiny islets.

They are unevenly distributed throughout the Pacific Ocean and appear in clusters and archipelagos.

UNIT VIII THE PACIFIC WORLD

Dividing the Pacific into eastern and western at the 150th meridian, the eastern Pacific is nearly devoid of islands except near the margins of the Americas, while the western Pacific is characterized by multitudinous islands, generally arranged along arcs.

The greater number, both of groups and individual islands, lie in a relatively restricted part of the ocean, between latitudes 10° N and 25° S and between Australia and longitude 130° West.

Many islands of the Pacific Ocean lie outside the Pacific World Region and will be studied as parts of other world regions. (Examples — Indonesia, with southeast Asia; Japan, with East Asia) For the sake of convenience, other islands, such as Hawaii, will be included in the Pacific World Region.

For descriptive purposes and ease of locating main island groups, they are divided into four major groups: Australia and New Zealand, Melanesia, Micronesia, and Polynesia. The latter three names are based on the character of the islands or their native peoples.

Melanesia — black islands; named for the complexion of its natives, includes the islands south of the equator and north and northeast of Australia, including New Guinea, the Bismarck Archipelago, and the Solomon, New Hebrides, Admiralty, Santa Cruz, New Caledonia, Loyalty and Fiji islands.

Micronesia — Little islands, includes the Marianas, Caroline, Palau, Yap, Marshall and Gilbert islands.

Polynesia — many islands; is a huge triangular area, 5000 miles from north to south and 4000 miles from east to west. It extends from Hawaii on the north to New Zealand on the southwest and Easter Island on the southeast. It includes the Marquesas, Tuamotu, Socity, Samoa, Tonga, Cook, and other islands and groups.

Broadly, the islands may be distinguished as continental or oceanic.

Continental — those which by location or possession of continental rocks are clearly associated with the continental masses.

Oceanic — those which are remote from continents and are essentially of volcanic and coralline origin.

A division with a wider range of applicability is that between the high volcanic and low coral islands, the latter including both coral uplifted platforms or still-living reefs and atolls.

High islands may trap more moisture from the atmosphere in sufficient amounts for agriculture.

Low islands often do not provide soil or drinking water for habitation so that their major economic importance is mostly as sources of guano or sites for airfields.

In a region that is predominantly water, such phenomena as ocean currents, water temperatures, tides, prevailing winds, and destructive storms take on special significance.

Movements of the ocean water include the tides, currents, and waves caused by the wind, and the slow creep of ocean water at different temperatures, in which the warmer rises and the colder sinks. These movements affect the distribution of plants and animals, the sea routes followed by man, and the erosion and deposition of material along shorelines.

The major pressure elements are the doldrums low-pressure belt along the thermal equator and the subtropical highs of the eastern Pacific.

Sea and air temperatures are fairly uniform.

Rainfall is variable, both seasonally and in geographic distribution.

Tropical cyclones of varying intensity occur at least occasionally throughout most of the Pacific World.
Typhoons and hurricanes are often destructive because of the strength of their winds.

Although the Pacific Realm is vast, the habitable area is very small. The combined land area with its seas is estimated to be 17.5 million square miles. With a population of about 3.3 million, this gives an overall density of 5.3 per square mile.

This habitable area is a little larger than the conterminous United States, the population about that of New York, and the population density about 1/11 the world average.

Australia, the dominant land mass in the southwest Pacific Ocean, has an area of nearly 3 million square miles, and a population of approximately 12 million, about that of New York City.

Just as most of the Pacific Basin is without land, so most of the islands are without people—uninhabited.

New Zealand, with her Pacific outposts, has an area of about 104,000 square miles, and a population of almost 2 million.

With few exceptions, there is no problem of population pressure; quite the contrary; many areas could support a much greater population. This region can provide a home for many of the world's overpopulated countries.

Learning Activities

Initiate a discussion

How does the Pacific Ocean compare in size with the other three oceans? With the total land area? (Students will probably have to look up this information.)

To what geometric shape does the Pacific Basin compare? Where is its apex? Its base?

UNIT VIII THE PACIFIC WORLD

Have the students question the latitudinal spread: South to the 40th parallel south latitude or south to the Antarctic Ocean. See if this helps explain the different dimensions they probably found if they looked up the area in different sources.

Have them note its longitudinal extent: (1) at the equator, and (2) from the Malay Peninsula to the Panama Canal. Figure or look up the distance at both places and compare with the earth's equatorial circumference. How many standard time zones does it cover?

Map Exercise using Pacific oriented map:

Identify Australia, New Zealand, Hawaii, and other major island groups.

Show the divisions of Micronesia, Melanesia, and Polynesia.

Label the larger island groups and their most prominent islands.

Identify the major divisions of the Pacific Ocean: (e.g., Coral, Arafura, Celebes seas)

Identify the Malay Peninsula and the Isthmus of Panama.

Label the tropics and equator.

Draw in and label the major ocean currents.

Initiate a discussion:

In what part of the ocean are most of the islands situated?
What is responsible for the arcuate positioning of the islands?
Does this help explain the "high" and "low" islands?
How does the Pacific World with its 17.5 million square miles and 3.3 million people compare with the other world regions studied? What is the overall population density? Where are the greatest concentrations of population?

Resource Material

Pacific oriented map with mylar overlay and marking pens and desk outline maps and colored pencils for students.

Good reference atlases and other recent reliable sources of statistics.

String and rulers for measuring distances on globes and maps.

Reference Material for the Student

James and Davis. **The Wide World.** New York: The Macmillan Company Publishers, 1967.

Concept II

Despite its vastness, the Pacific World was late in being discovered by Europeans, and was among the last parts of the world they explored and colonized.

Content

European activites in the Pacific can be divided into four broad periods:

16th century - Spanish and Portuguese exploration
17th century - Dutch trading settlements
18th century - French and English exploration
19th century - Close contact between Pacific islanders and Europeans and Americans, and the beginning of the empires in the Pacific.

The discovery of many Pacific islands was the result of accident, but some were discovered because of specific research and other motives.

The earliest interests of Europeans was a better route to the Indies.

The British Admiralty was concerned with settling the question of whether a southern continent did exist, and if it did, to claim other islands which would protect her route to the new areas of exploitation.

Cook's expeditions were followed by a number of expeditions sponsored by various governments so that within a few years after his death, native cultures of many Pacific islands had been destroyed or greatly changed by a growing tide of whalers, traders, missionaries, and "blackbirders."

The discoverers did not always lay claims for their discoveries, nor were the European nations always eager for the responsibilities of Pacific islands that devolved upon political sovereigns.

With a realization of the value of the Pacific Islands, the European powers came to vie for their possessions by 1850, and were later joined by the United States and the leading nations of Asia. By 1900, the islands had been parceled out between four world powers: Great Britain, France, Germany, and the United States.

Physical fragmentation set the stage for political fragmentation which persists today, even though nations have been developed and other areas are in various stages of achieving political independence.

The present distribution of political controls follows no regular pattern.

The commonwealth of nations is far in the lead in both Polynesia and Melanesia.

France is well represented across the South Pacific.

The United States is responsible for most of the North Pacific.

Chile owns Easter Island.

Profound changes in the population composition, cultural and economic activities, and needs and desires of many of the islanders are a result of foreign influences with their customs and religions, trading companies, plantation development, industrialization and technology.

They were not concentrated in sufficient numbers to withstand the European conquests, as were the Indians in part of Latin America, or the Negroes in parts of Africa.

They had no militant religion, like the Moslems.

They had no advanced technical skills, like the Orientals.

Since they were unable to offer any continued resistance, the native cultures are almost all gone. Although many of the present-day inhabitants are descendants of native peoples, they have had to take on the ways of the Europeans, except in more remote and isolated spots. For the most part, they have inescapably become tied to the complexities of the modern world and they want a share of the satisfactions that industrialization brings.

Learning Activities

Map Study

The historical geographic approach to the **patterns** of discovery and colonization of the Pacific World might be considered as an introduction of this concept. **Extensive use should be made of map construction to show these patterns.** It would be interesting to compare this map with another map which should be compiled later and which shows the present political distribution. Some students will be able to discuss the comparison of these two maps.

Initiate a discussion regarding the responsibilities which devolve upon a nation as it lays claim to other territories, and why, until the late 19th century, most nations were not very anxious to face these responsibilities.

Involve the students in some way with the cultures of this region. This might be accomplished by inviting an American Field Service or Exchange Student for an informal discussion session. Missionaries—medical and religious, exchange teachers, foreign news correspondents, or governmental officials might be contacted. Students could also acquire the name and address of a pen pal, perhaps even from American Samoa or another area in the U. S. held territory.

Correspond with a pen pal from one of the U. S. held U. N. Trust Territories.

Research:

What were the main interests of the western nations in these islands and island groups? Select a western nation and research this question.

What kinds of maps of the Pacific and its islands were available during this time? Did they contribute to multiple claims? How? Show an enlarged portion of the Pacific as it was mapped at that time; then superimpose a present-day map on it for comparison to help one understand some of the difficulties under which the explorers were working.

Concept III

The Pacific World has played a constantly-changing role in world affairs: an obstacle, a seaway, a highway for the exchange of ideas, cultures, and commodities, an air route, a buffer, and an area possessing locations of strategic importance.

Content

Although the natural geography of the Pacific World remains much the same as it has been for thousands of years, its communications character has passed through five stages during the last thousand years. Two of these have been experienced during the last hundred years.

Prehistoric period—before the use of seaworthy craft, when the ocean expanses proved an absolute barrier, and only chance or storm brought a forlorn and rare castaway from one island to another.

Early native navigation—waves of migration between islands so that tropical and subtropical Pacific islands were settled.

Trans-Pacific navigation—inaugurated by the large European-type and first truly trans-Pacific sailing ship. This period began with Magellan's voyage in the early 1500's and lasted through the first half of the nineteenth century. The Pacific was regarded more as something to be crossed than as an area in which to settle. Small attempts were made by Europeans to settle except in some islands of the West Pacific, particularly Guam, the Philippines, and parts of Indonesia.

Steamship navigation - Steam-powered engines freed the sea lanes from complete dependence upon the Pacific wind systems and brought significant international rivalry among European powers, the United States, and Japan for control of the Pacific islands.

Air navigation - Perhaps it should date from the first trans-Pacific flight by U. S. Army pilots who, in 1927 flew from Oakland, California, to Honolulu, Hawaii. It was certainly under way by the time of the epic and tragic flight of Amelia Earhart, who disappeared in the vicinity of Truk Island. (Truk Island)

Oceanic trade is of minor significance when compared with intercontinental trade. For many small islands of Micronesia and Polynesia the development of larger, modern steamships and aircraft paradoxically has resulted in deteriorated interland communications. Inability of native boats to compete with modern ships has led to abandonment of one-time, sea-navigation routes and of sea-going boat construction. At the same time, the economics of modern shipping inhibits frequent calls of ships at scattered small islands with little freight to offer and few demands for service.

Trade that flows across the Pacific consists for the most part of exchange between the nations that border on the ocean, so is intercontinental in nature. Largely, it carries commodities between the Americas and Asia.

In the east Pacific, Honolulu is the focus of several trans-Pacific sea and air routes. Six major-tonnage sea routes radiate from Honolulu and connect the Americas with Australia and New Zealand, Southeast and East Asia and the Soviet Union.

The North Pacific Great Circle route connects San Francisco and Seattle to Yokohama and Manila, with branches to Hong Kong and Singapore and is much shorter than the Honolulu route.

Honolulu is the major trans-Pacific air hub, but many nonstop flights terminate at Tokyo, the most important trans-Pacific terminal in the West Pacific.

The Pacific islands continue to have vital strategic functions which the nuclear age and missile developments have changed but not decreased. Certain islands possess other potential or existing functions: as sites for weather stations, launching and tracking stations for missiles and space satellites, and bases for surveillance of the seas. Important missile tracking radar stations are situated in Hawaii, Kwajalein and the Aleutians.

Learning Activities

Map Exercise

On large slate wall map, show the major trade routes of the Pacific. Let thickness of line show volume of trade. Show the major cities connected by these trade routes. Determine the distance between these cities following these trade routes. After Concept IV is studied, some key could be developed for showing the major commodities that pass over these routes or a second trade routes map could be devised for this.

Note: This exercise calls for the ability to plot great circle routes and might be conceived of as a desk project, with each student working with a base map of the Pacific.

Initiate a discussion:

Has the building of larger and more powerful ships and planes demanded the use of more or or fewer refueling stops? Why?

Some islands, such as Wake and Canton Atolls, serve as refueling points but not ordinarily as points of traffic origin while such islands as Oahu and Guam serve both functions. Why?

Aircraft range and high altitude flying have been largely eliminated as important consideration in routing planes, but the existence of certain prevailing high altitude wind directions and jet streams still continue to influence the routing of planes. Why?

Changes in technology and weaponry must affect strategic evaluations. Have these island bases become obsolete in the nuclear and missile age?

If a few bases of the United States and Great Britain were vulnerable to Japanese attack in World War II, should the United States maintain more or fewer bases now? Why?

Map Exercise

Prepare a map showing the Pacific satellite tracking stations. With colored pencils show some of the major, manned satellite flights. Were these flights well planned, controlled, and observed?

Concept IV

The Pacific World is a major supplier of certain tropical crops and minerals which are valuable and necessary to industrialized nations.

Content

The Pacific World is the major supplier of coconut and coconut products.

The growing and processing of products from the coconut palm is the most widespread of the economic pursuits in most of the smaller islands.

> The term "coconut civiliation" is often used to show the great dependence on this crop.
>
> Exclusive of the Philippines and Indonesia, the other Pacific Islands produce 8 to 10% of the world's production, much of which is exported.
>
> Every part of the coconut palm is used. The three major products are copra, coconut oil, and coir.

Sugar cane production, though less widespread than coconut production, has a higher value.

> Hawaii is a major producer.
>
> Other important producers include Australia and the Philippines.

Important fruit crops include pineapples, bananas, apples, and grapes.

Appreciable amounts of tea, coffee, vanilla beans, manioc, and oil seeds are also produced and exported.

Other important agricultural commodities are wheat, beef, mutton, dairy products, wool and hides which are produced largely by Australia and New Zealand.

Gold, lead, zinc, copper, chrome, nickel, iron ore, guano, and phosphate are the chief minerals produced that enter world trade.

> Australia is an important world producer of gold, lead, and zinc, and produces appreciable amounts of coal, iron ore, copper and tin.
>
> Gold is mined in the Solomons, Fijis, and New Guinea.
>
> New Caledonia is outstanding in production and reserves of nickel, chrome, cobalt, and iron ore.

Guano and phosphate are important minerals of many low lying islands. **Nauru, Ocean Island,** and **Christmas Island** are the major producers.

Concept V

Australia, the world's only politically unified continent, is the dominant land mass of the Pacific World.

Content

With an area of almost 3 million square miles, including the off-shore island of Tasmania, Australia may be considered as both the world's largest island and least continent.

Australia stands sixth among the nations of the world with respect to size.

Its area is comparable to conterminous United States, China Proper, and Brazil, all of which are large politically unified countries, but none of which occupies a continent.

The relative emptiness of Australia, however, is in great contrast to these countries, both by way of total population and population density, but typifies the relative emptiness of the Pacific World.

Although about the same size as conterminous United States, her population is about that of Pennsylvania or New York City.

Her population distribution is highly irregular.

93% live within 500 miles of the east and southeast coasts.
6% live close to the southwest coast.
1% live in scattered settlements over the remainder of the area.
Over 60% is concentrated in the two southeast states of New South Wales and Victoria, in which are located, respectively, Sydney and Melbourne, which together have 1/3 the total population.
50% live in the six state capitols.
About 80% is urban.
There are no medium-sized cities in the interior; just small towns which serve as market centers.

There is no single, simple reason for this population pattern, but there are several contributing factors:

Australia lies antipodal to the north Atlantic and near the center of the world's water hemisphere.

It is the only inhabited continent that lies entirely within the southern hemisphere.

Physical environment is more conducive to this pattern.

Cultural factors have been and still remain very important.

Australia is large enough to have a continental variety of climates, but small enough so that the most interior location is only about 550 miles from an ocean.

Climatic variety is suggested by the range of annual precipitation, from over 80 to less than 6 inches, and annual temperatures, from 85° F to less than 50°.

Killing frosts are few, but permanent snow is found in highland Tasmania.

Her latitudinal position places portions of the continent in the belt of Southeast Trades throughout the year, within the belt of tropical monsoon rainfall in summer, and within the Westerlies wind system in the winter.

Most of the continent is classed as steppe or desert. The eastern and northern margins are the only humid regions.

The traditional seasons of the northern hemisphere are, of course, reversed in Australia.

Along with other factors of the physical environment, Australia's pattern of precipitation reflects the arrangement of her many landforms. The relief pattern suggests a huge platter, rimmed about the edge. It consists of three major landforms.

Western Plateau—covers about ½ the area; has Macdonnell and Musgrave ranges, Nullabar Plain, and Sand Ridge Desert.

Central Lowland—covers about 1/3 the area; is divided into several drainage basins; the Great Artesian Basin underlies the northern part of it.

Eastern Highlands—covers about 1/6 the area; reach their highest peak in the southeast with Mt. Kosciusko (7328 feet); has Atherton, New England, Blue Mountain, and Monaro plateaus, Victoria Highland and Lowland; and Tasmania, 150 miles across Bass Strait, is essentially an outlier of this region.

Australia ranks among the world's most progressive and prosperous countries.

Per capita income places her among the world's most highly developed economies, along with those of Western Europe, Canada, the United States, and New Zealand.

She is one of the few countries which are highly industrialized and at the same time an important exporter of raw materials and food (primary products).

Farm production is highly mechanized, and per man production is the highest in the world, although per acre production is low.

Over ½ the working force is engaged in the services (tertiary) industries, a reflection of the high standard of living.

Australia occupies a significant place in the world economic structure.

UNIT VIII THE PACIFIC WORLD

Since the mid-1800's, Australia has led the world in the export of wool.

Wool constitutes 35 to 40% of her exports by value, 12% of her national income, and surpasses the total of all other primary goods by value. New South Wales accounts for 47% of the wool crop and has 12 important market centers.

Australia produces ¼ the total wool production of all grades, and produces 3/5 the world's Merino sheep.

Wheat and flour rank second in value of exports.

It constitutes 5 to 10% of her total exports by value, and places her in fourth or fifth position as a world exporter.

Like wool, it reflects the continent's aridity and low population, and the main wheat belt and the main belt of sheep production have come to occupy approximately the same area.

Meat and other animal products rank high in her exports.

Australia usually exports about 21% of the world's beef, 14% of its mutton, and is an important exporter of hides.

Dairy products are a more recent contribution to her exports.

Other agricultural exports include varying amounts of: sugar cane, grapes, citrus fruit, peaches, apples, bananas, and pineapples—the latter two come from a narrow coastal plain in Queensland.

Australia is a leading mineral producer and exporter and has some of the best known reserves.

Lead - Australia and the Soviet Union have surpassed the United States in production.

She produces between 10 and 15% of the world's lead. The Broken Hill District in New South Wales and the Cloncurry District in Queensland produce 17% and 9%, respectively. Most of this is exported in the form of concentrates. Australia has also reduced her production because of a world surplus.

Zinc - Australia produces 5 to 10% of the world's zinc. Lead and zinc usually are found together.

Gold - has been her most important mineral for nearly a century. She now produces about 2% of the world's total.

Bauxite - Australia is credited with more than 40% of the world reserves, of which ¾ are located near Weipa, on Cape York Peninsula, which presently is the world's largest known deposit.

Much of the production goes to aluminum reduction plants in Tasmania, the United States, and Canada. The Aluminum Company of America (ALCOA) is building an aluminum complex in south Australia, complete with transportation facilities and thermoelectrical plant.

Tungsten - comes from the scheelite mines on King Island in southern Australia. Over 90% of the production is exported, chiefly to the United States and western Europe.

Iron ore - Australia produces a little over 1% of the world production near Yampi South and Spencer Gulf, but her known iron ore reserves are the world's third largest.

Natural gas and petroleum - Australia is known to be rich in natural gas and suspected to be rich in petroleum. Since 1961, gas and oil wells have been in operation at Moonie, in southeast Queensland, but the magnitude of the field is not known at this time.

Coal - supplies 4/5 her industrial power needs and most industries are located near the fields.

She mines about 1% of the world's total.
Most of the output is high-grade bituminous and is mined around Newcastle, where deposits are relatively large and accessible.
Most of it is used locally or shipped by way of Newcastle to other coastal cities in southeast Australia.

Australia is well supplied with raw materials for manufacturing and her industry has undergone an unprecedented period of expansion since World War II.

A recent shift has been made from consumer goods industries to heavy industries making products needed by an increasingly mechanized and complex economy.

Industries producing heavy machinery, including electrical equipment, and transport equipment now provide for 33% of all factory employment.

Most of her requirements for metal products, farm machinery (except tractors), communication equipment, furniture, and leather goods are provided locally.

She produces 2/3 the locomotives and rolling stock required, ¼ the wheel tractors, and a large proportion of her requirements for electric motors, and heavy power-generating equipment, drugs and chemicals, paper goods, and rubber products.

She manufactures and assembles complete motor cars and produces over ½ her domestic demand.

There is considerable foreign investment, particularly from the United States and the United Kingdom. Over 200 United States firms have investments in subsidiaries, and some 600 others have patent licensing and distribution facilities or other arrangements. Almost without exception, these investments have proved satisfactory.

In coastal cities, principally in South Wales and Victoria, manufacturing is concentrated. Southeast Australia contains over 80% of the nation's manufacturing.

Newcastle, Port Kembala, and Whyalla are the major iron and steel centers.

The Broken Hill Proprietory Company operates the nation's primary iron and steel industry.

The high-grade bituminous coal in the area is the source of power and the raw material for a heavy chemical industry.

Textiles are among the oldest industries present.

Newcastle is the major port of the area and of the nation.

The effects of Australia's relative isolation have been and still continue to be great.

Because of the remoteness from the British center of Empire, the first settlement made, 200 years after British North America had been colonized, was a penal colony (1778). For about 80 years, Australia received many British prisoners.

Feeling that Australia represented the "end of the earth," many people declined to emigrate there, even after the discovery of gold (1851). Those who did emigrate were largely British and most of the present population is of British descent.

Each area was permitted to develop singly and Great Britain treated each as a separate state until they united to form a Commonwealth in 1901. The rate of emigration has gained considerably from that date.

From the beginning, Australia came to depend upon their trade with Great Britain. Although trade relations have been broadened, Great Britain is still a major trade partner, along with Canada, and the United States. Australia, however, is quite isolated from the industrial countries of northwestern Europe and North America, with whom it has had its strongest ties.

Sydney to San Francisco - about 7000 miles

Sydney to the Panama Canal - about 7500 miles

Southwestern Australia northeastward to Hawaii - 7000 miles

Sydney to London via the Panama Canal - 12,500 miles

Sydney to London via Cape Horn - 12,500 miles

Australia to heavily populated centers of India, China, and Japan - 4000 miles.

Australia would like to gain markets for her products in nearby southeastern Asia, but neither wool, wheat, fresh meat, nor dairy products fit in with the way of life of most Oriental peoples. However, she and Japan have become strong trading partners.

A strong tie that still binds her to the western world is the British Commonwealth of Nations of which she is an important member.

With the presence of so large an empty area near the crowded lands of eastern and southeastern Asia, some interesting questions present themselves.

Will Australia attract heavy emigration?

In spite of the widespread aridity, can Australia support twice the present population of the present high standard of living?

Is it likely that trade relations will become closer with her near neighbors in the Orient and perhaps shift from the Atlantic to the Pacific basin?

Learning Activities

Map Exercise

Prepare a climatic map of Australia and New Zealand and one of the United States. Place the two maps side by side, the map of the United States upside down, with the parallels coinciding. Compare and contrast the climates. What similarities exist? What difference? Why?

Prepare a population map of Australia and one of the United States but show that of the United States with the pattern of Australia. Evaluate the possible role of the United States in world affairs if this pattern existed.

Research:

What physical factors account for the population pattern of Australia?

What cultural factors account for the population pattern of Australia? Does Australia have large coastal cities because the interior is not worth developing? OR Could the interior be developed more intensively if she had a greater population?

How does wheat farming in Australia compare with that in the United States? Argentina? Canada? Explain the factors that cause likenesses and differences.

An often quoted cliche is "Australia lives on the sheep's back." What significance has this expression?

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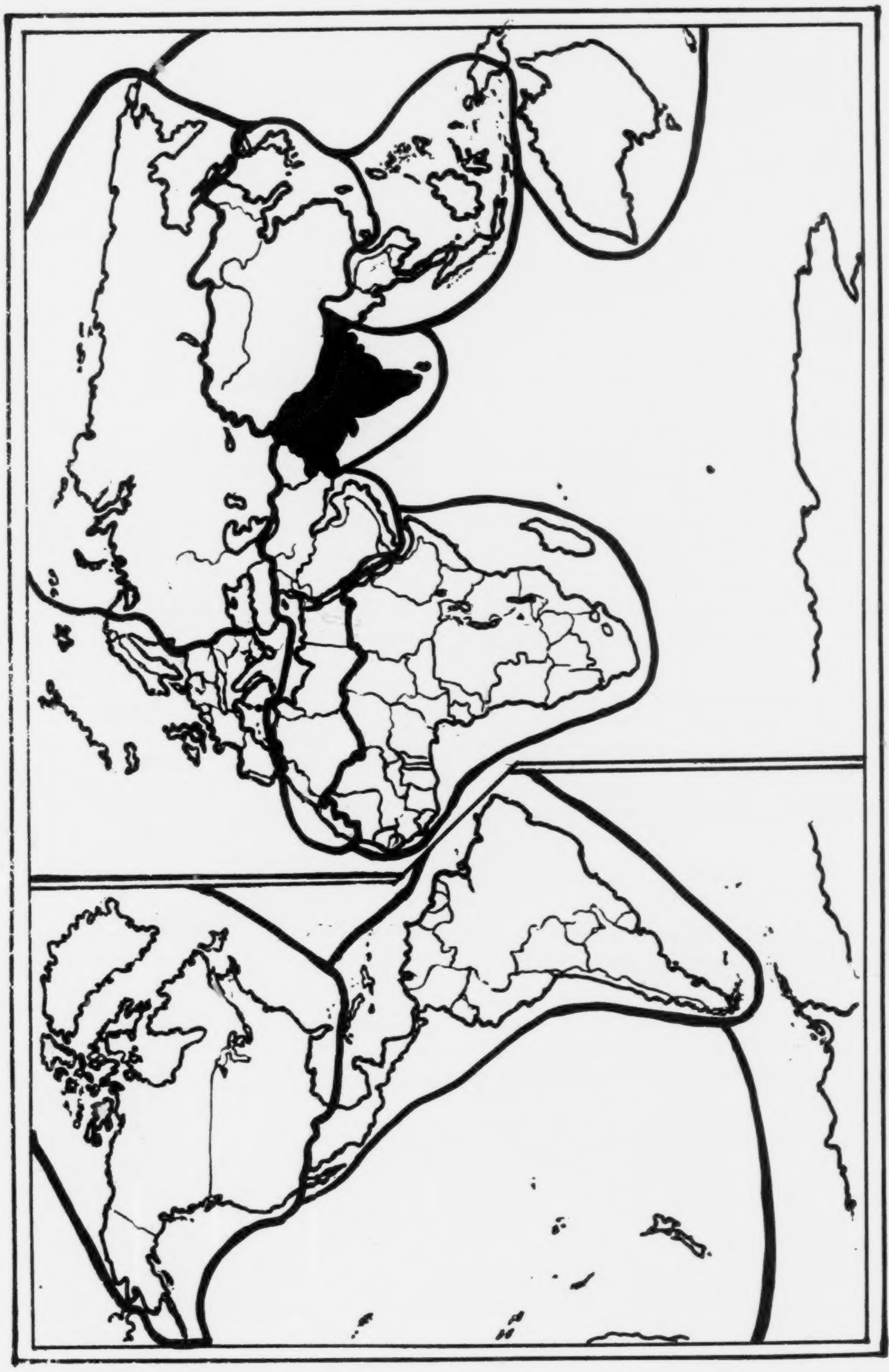
UNIT IX THE INDIAN SUBCONTINENT



UNIT IX

THE INDIAN SUBCONTINENT

Suggested Time: Two weeks

RATIONALE

The Indian subcontinent, being a peninsula with mountains generally ringing the western, northern, and eastern margins, is a fairly well defined physical unit. India accounts for most of the area and population of the region. Pakistan, the second largest company in the region, is divided into an eastern and western part separated by 1,000 miles of India. The other states are Ceylon, an island off the southeastern tip of the peninsula, and the Himalayan states of Nepal, Bhutan and Sikkhim. This region encompasses the second largest of the four major clusters of world population and includes the longest, densely populated river valley in the world. This river valley, the Ganges, contains a dense population stretching for over a thousand miles, a distance equivalent to the distance from St. Louis to New York. For nearly 200 years this whole area was either directly or nominally under the control of the British. This long association has left many imprints on the land and people. This area is important in that it is a testing ground to determine if underdeveloped nations can provide a better life for their people while retaining democratic institutions.

Concepts

I. The Indian subcontinent has a large population most of whom are extremely poor with many living on the verge of starvation.

II. The most significant aspect of the natural environment of the Indian subcontinent is the areal pattern of rainfall; the greater part of the area being affected by the seasonal monsoon.

III. Although there are large cities in the Indian subcontinent, most of the population live in small rural villages.

IV. Large quantities of foodstuffs are produced in the Indian subcontinent but generally agriculture is inefficient with output per person and per unit of land being among the lowest in the world.

V. The Indian subcontinent has many of the raw materials required for industrial growth and industrial production, but the increased production rate is erased annually by the increase in population.

VI. India and Pakistan are each independent, sovereign states but a feeling for the idea of an Indian nation and a Pakistan nation has not as yet developed because of the many devisive cultural factors in each state.

Concept I

The Indian subcontinent has a large population most of whom are extremely poor with many living on the verge of starvation.

Content

Growth:

The student should get some idea of the rapid rate of increase of the population of India. This can be graphically depicted by a bar chart showing the actual population for the ten-year intervals shown in the table or by showing only the decennial change on a bar sheet.

The reasons for the rapid growth could be shown by constructing a chart of the birth rates and death rates for the periods shown in the table. This emphasizes that the reason for the rapid increase is due to the lowering of the death rate. The reason for this drop in the death rate could be discussed emphasizing the factor of imported life-saving medical techniques. The teacher should also discuss the well-known strain that this rapid increase puts on the economy. Production has to go to current consumption rather than for the investment projects which might increase production in the future.

Density:

There should be a discussion of the distribution and density of population in the subcontinent. This can be done by having the students calculate the density for the various provinces in the region. The population and area figures are included and to simplify, the figures could be rounded. Their densities could then be mapped on the outline map. The teacher should help the student select the categories. One can use either arbitrary values or one can rank the densities and divide the units into quartiles or fourths letting the category limits be set by the lower and upper unit in each category. One advantage of the quartile method is that there are the same number of units in each category.

Learning Activities

Discuss:

The map of densities could be compared to the rainfall which will be developed in the next concept. Are the high population denisty areas in the areas of high rainfall? Also discuss the necessity of irrigation in the very dry areas, especially in West Pakistan.

POPULATION GROWTH

Year	Population	Decennial growth in numbers	Decennial growth in %
1901	236,281,245		
1911	252,122,410	15,841,165	+ 5.73
1921	251,352,361	-770,149	- 0.31
1931	279,015,498	27,663,237	+11.01
1941	318,701,012	39,685,514	+14.22
1951	361,129,622	43,428,610	+13.31
1961	439,235,082	78,105,460	+21.50
1966	494,100,000		

1958 to 1964 annual rate of increase 2.3%

Years to double population 31 years.

VITAL STATISTICS

	ANNUAL AVERAGE			
	1941-51	1951-6	1956-61	1966
Birth rate (per 1,000)	39.9	41.7	40.7	40
Death rate (per 1,000)	27.4	25.9	21.6	20

Source:

Segal, Ronald. **The Anguish of India.** New York: The New American Library Publishing Co., 1966.

INDIAN SUBCONTINENT

Area and Population

Division	Area, square miles	Population, 1961 census	Density
India			
Andhra Pradesh	106,052	35,977,999	
Assam	84,899	11,860,059	
Bihar	67,128	46,457,942	
Goa	1,619	637,591	
Gujarat	72,137	20,621,283	
Jammu and Kashmir	86,022	3,560,976	
Kerala	15,003	16,875,199	
Madhya Pradesh	171,210	32,394,375	
Madras	50,132	33,650,917	
Maharashtra	113,903	39,504,294	
Mysore	74,122	23,547,081	
Orissa	60,132	17,565,645	
Punjab	47,084	20,298,151	
Rajasthan	132,150	20,146,173	
Uttar Pradesh	113,452	73,752,914	
West Bengal	33,928	34,967,634	
Nepal	54,362	9,180,000	
Bhutan	19,305	670,000	
Sikkim	2,744	161,080	
Pakistan			
West Pakistan	300,839	40,815,000	
East Pakistan	55,134	50,844,000	
Ceylon	25,332	9,651,000	

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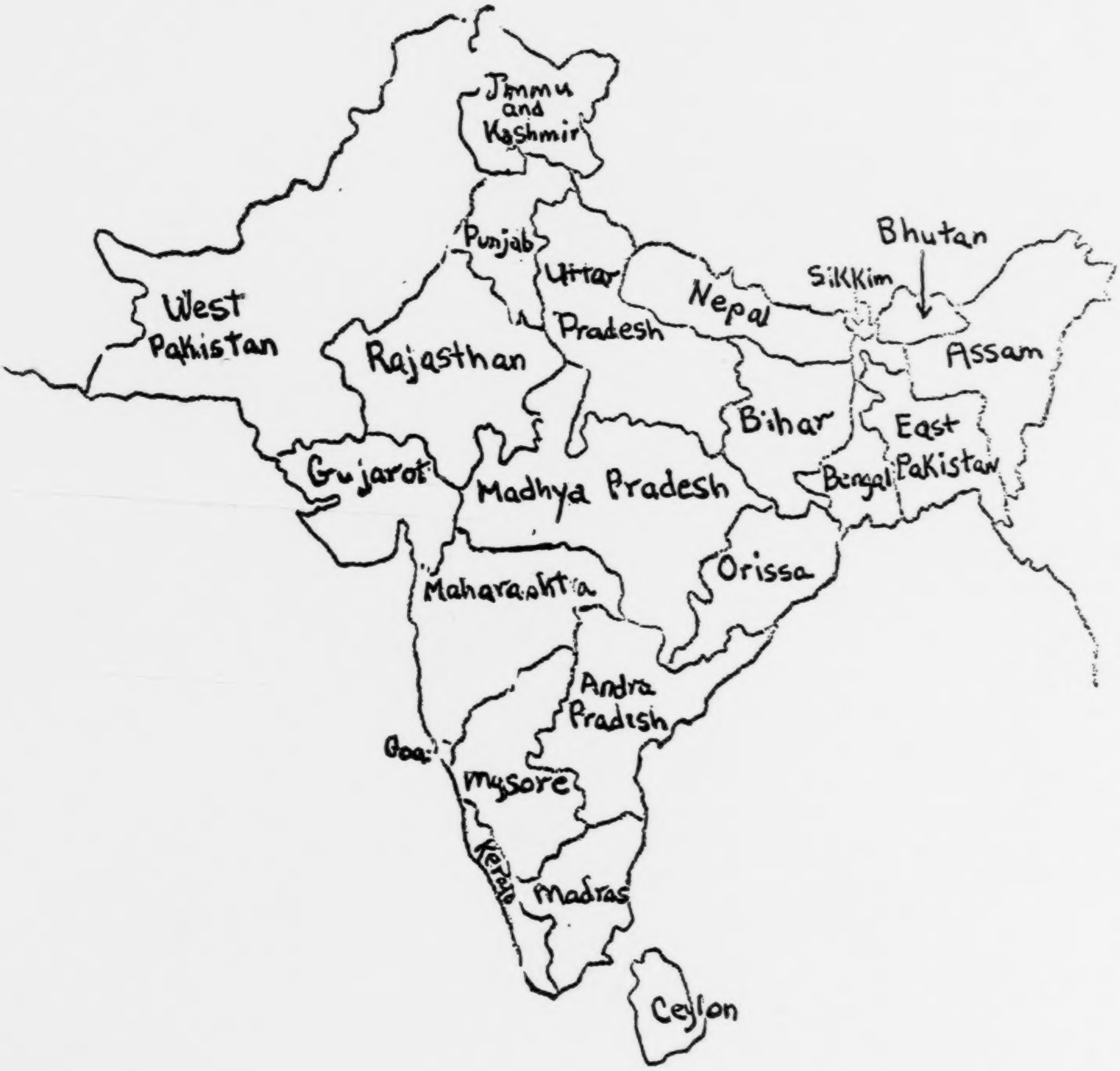
INDIAN SUBCONTINENT

National and Provincial Boundaries


Jammu and Kashmir
Punjab
Uttar Pradesh
Nepal
Sikkim
Bhutan
Assam
West Pakistan
Rajasthan
Bihar
East Pakistan
Bengal
Gujarat
Madhya Pradesh
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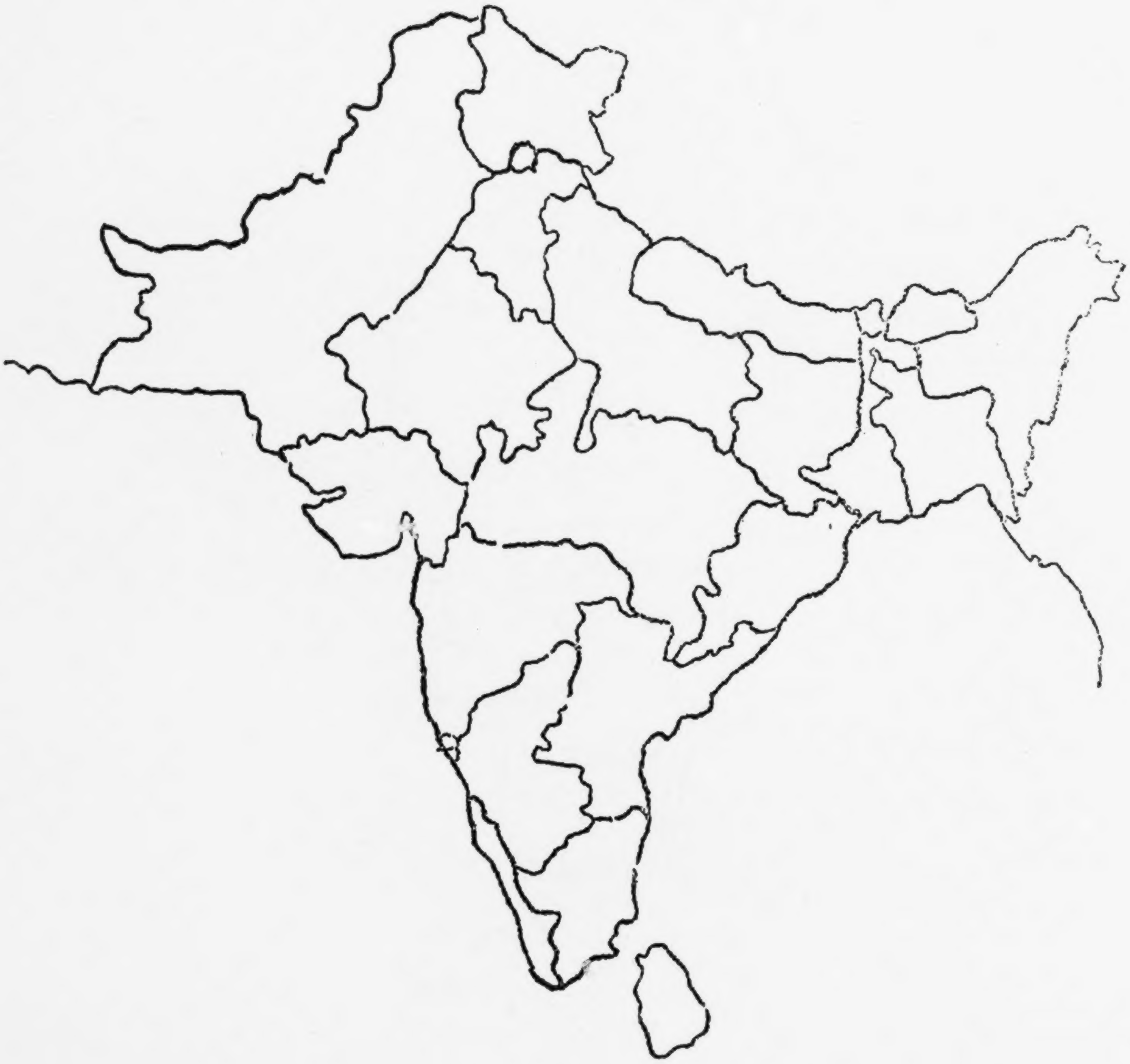
Maharashtra
Andra Pradish
Goa
mysore
Kerala
Madras
Ceylon

INDIAN SUBCONTINENT

National and Provincial Boundaries



Concept II

The most significant aspect of the natural environment of the Indian subcontinent is the areal pattern of rainfall; the greater part of the area being affected by the seasonal monsoon.

Content

There are two parts to this concept which seem important.

The geographic pattern of rainfall and its implications.
The seasonal pattern of rainfall and its implications.

The geographic pattern of rainfall:

The Indian subcontinent includes places among the driest and wettest on record. To understand this pattern as well as learn a valuable geographic mapping technique, it is suggested that an isoline map of the average annual rainfall be constructed and then analyzed, (isolines which connect points of equal average annual rainfall are called isohyets.) Probably there could be some instruction concerning the behavior of isolines. That is, as one travels along the line, the value stays the same; as one travels at right angles to the line, the value either increases or decreases. Isolines are always endless lines if carried far enough into the areas off the map.

The accompanying map gives the average annual rainfall for various places over the Indian subcontinent. For the most part, these figures represent actual figures for weather recording stations. In a few instances, figures have been added to make the construction of the map somewhat easier for the student but the pattern remains the same. Since Ceylon is relatively small, it would probably be wise to exclude it from the exercise.

Construction of the map:

The 50-inch and 300-inch isohyets have been drawn in to aid the student. However, if the class is advanced enough, the teacher may want to give the student a copy of the map with some of the isohyets drawn in. There are various possibilities for the exact positioning of the isohyets but the general pattern on each map should be similar. The student should draw in an isohyet for every 10 inch value from 10 to 40 and 60 to 90 inches. Several points should be noted by the teachers to aid the student.

There is a 50-inch isohyet and a 100-inch isohyet very close together along the southwest coast necessitating several isohyets between them very close together.
Near the center of peninsular India, the 30-inch isohyet is an enclosed line.
There will be two 40-inch isohyets generally parallel to each other across the northwestern part of peninsular India.

Description and Interpretation:

After the students have completed the map, the teacher should have them describe the emergent patterns. In the discussion the students' description should include the following points:

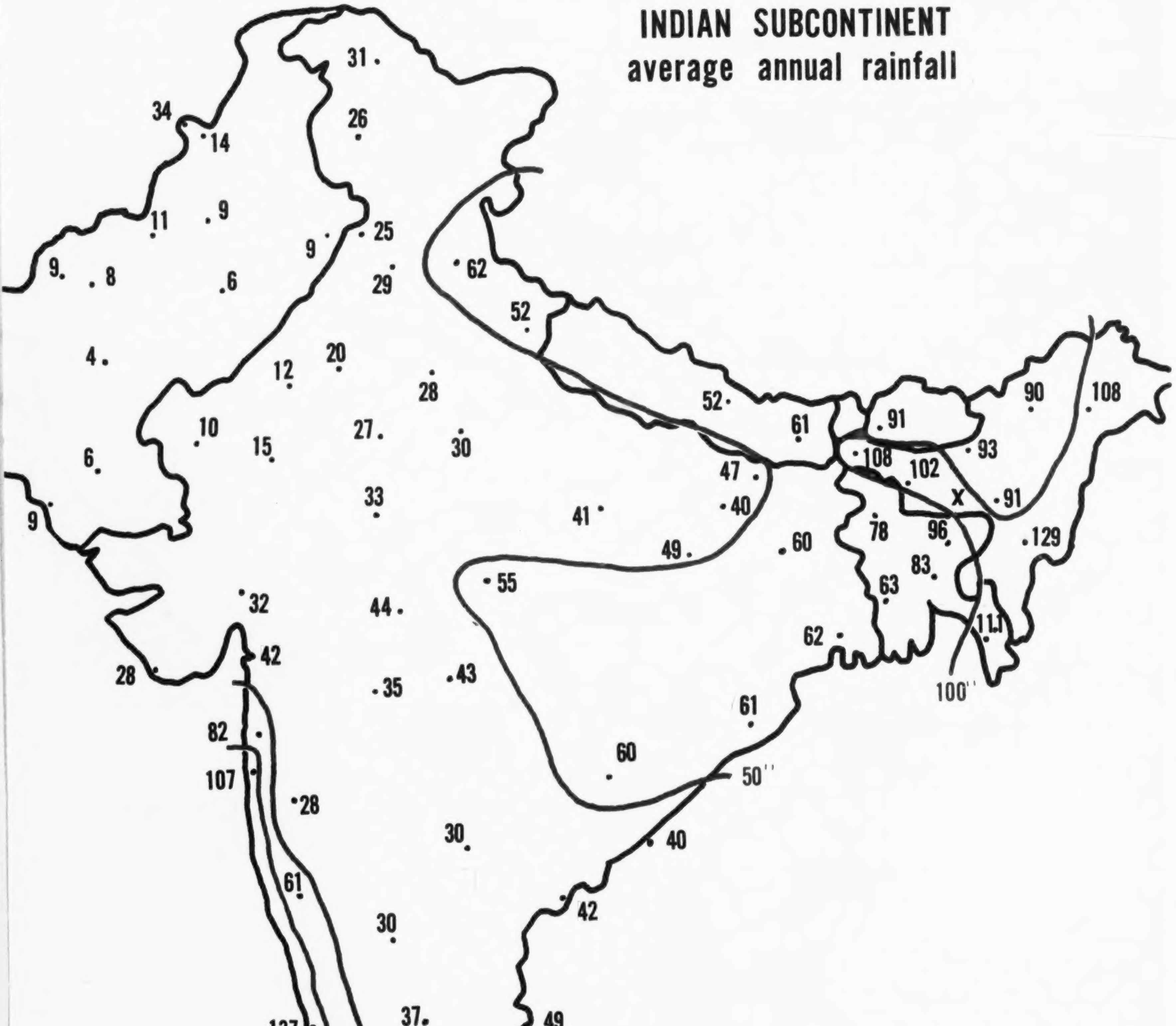
West Pakistan is the driest part of the subcontinent. How can crops be grown here? Irrigation by the Indus River and its tributaries.

The southwestern coastline receives very heavy rainfall which diminishes very rapidly inland to an "island" of low rainfall. At this point, suggest that a map of topography might be illuminating and discuss the barrier or rain shadow effect of the western Chats.

There is a concentration of heavy rainfall at the head of the Bay of Bengal. This decreases northwestward up the Ganges Plain and increases northeastward up to the Assam Hills and then decreases. Point out Cherraunji with an annual average of 450″; one of the largest averages in the world due to the orographic effect.

As one goes toward and up the northern rim of mountains, the rainfall increases.

The teacher could compare the distribution of rainfall to the distribution of population.



INDIAN SUBCONTINENT
average annual rainfall

31
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35
43
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61
82
107
60
50''
28
30
40
61
42
30
137
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122
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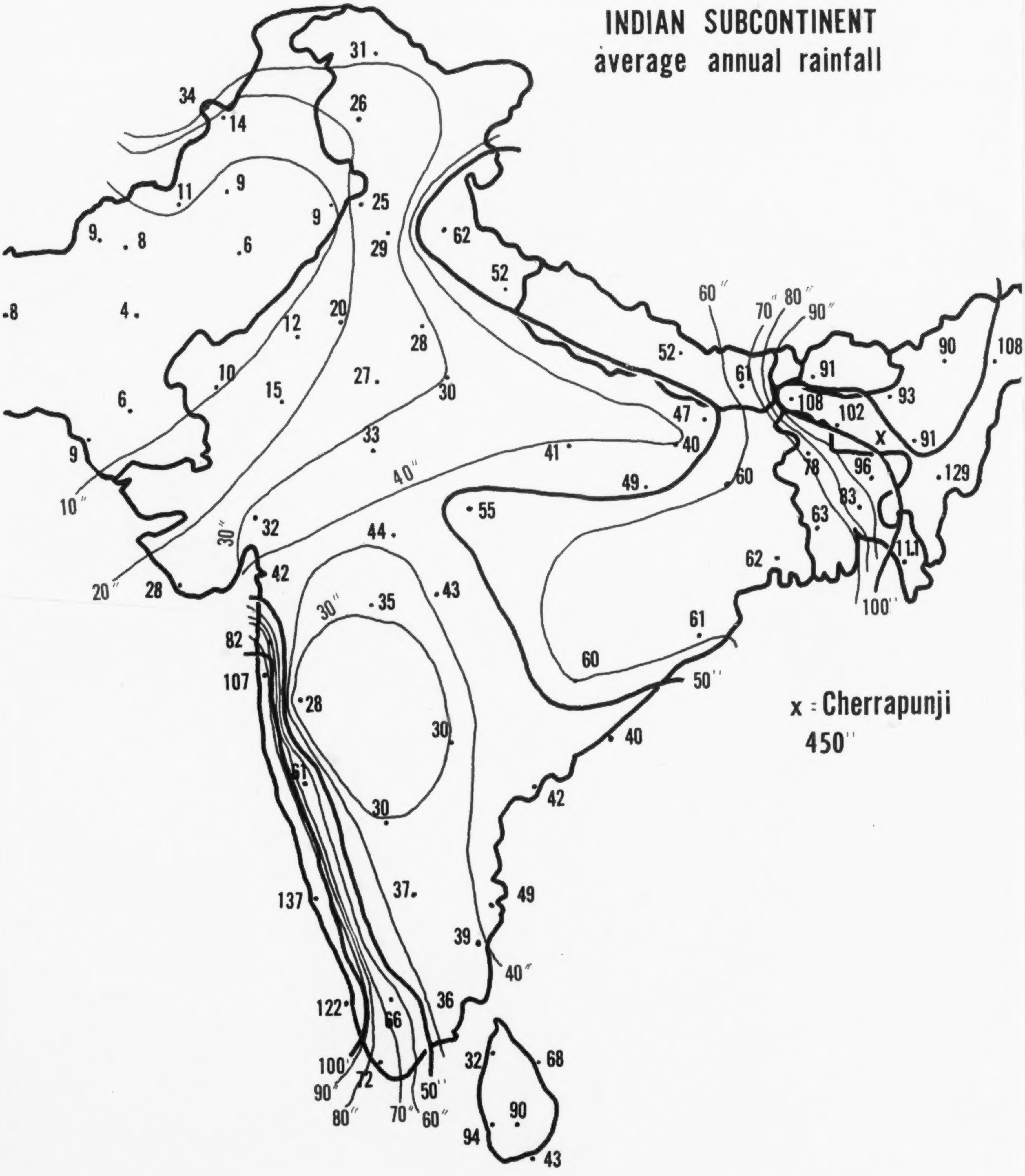
36
100''
72
50''
32
68
90
94
43

INDIAN SUBCONTINENT
average annual rainfall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40″
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66
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90″
72
80″
70″
60″
50''
32
68
90
94
43

x = Cherrapunji
450''

Seasonal Pattern

Have the students examine the statistics for the various stations in the area and describe the seasonal pattern in various parts of the subcontinent. At this point, the teacher should discuss the causes of the monsoon. In general, this is caused by the shifting in the direction of the winds. Although not completely understood, the change in wind direction is related to the change in temperature and pressure over the Asian continent and the shifting of the equatorial low pressure belt in response to the shifting of the direct rays of the sun. Uusally, the rains come during the high sun periods when the winds generally are blowing inland or toward the Northeast. The exception is along the southeast coast where the rains come during the low sun period when the winds are blowing toward the southwest or inland along the southeast coast. It might be pointed out here that in the areas of high rainfall, rice is the most important crop, whereas wheat is increasingly important as one travels toward the drier areas. If maps of this are available, so much the better.

Irregularity of rain

The rather large deviations from the average for particular months is an important factor affecting agriculture. There may be too much rain or too little. The rain may come either too early or too late in relation to the time for planting crops. The rapidity of the coming of the monsoon can be suggested by examining the rainfall statistics for the months on either side of the "bursting of the monsoon." The deviation from average can be seen by examining the actual rainfall for months over a period of years.

Learning Activities

Chart Exercise

Included is a table of the rainfall statistics for several stations in the Indian subcontinent. The statistics are for the four months during which the monsoon rain "bursts." These are not necessarily the same four months, since as one travels northwest up the Ganges Plain the rains come later than in the Ganges Delta region. Also included is a chart with the inches of precipitation on the vertical axis and the years 1951-1960 on the horizontal axis. The long-term average for the particular months is drawn as a straight line across the chart. The student should plot the actual rainfall for each of the months during the ten-year period and possibly connect the points with a line using either different colors or different pattern lines (dots-dashes) for each month. The chart for Dumka, north of Calcutta, has been completed as an example for the teacher. On this chart one can see the rapid increase from April to July and can observe the rather large deviations from average during the ten-year period. The teacher could point out that for July, **four** years were either average or above, while **six** years were below average. One might also determine if there were continuous years above or below. If one month for a selected year is above average, will the other months generally be above average? Or is there no pattern?

The statistics for New Delhi have been included if the teacher desires to chart this station. This will show first the lower amount of precipitation and secondly, the later arrival of the rains.

PRECIPITATION STATISTICS FOR SELECTED STATIONS

Station:	J	F	M	A	M	J	J	A	S	O	N	D	Total (In.)
Bombay (19N 73E)	.08	.04	.00	.12	.60	20.5	27.9	16.5	11.7	3.5	.8	.08	81.81
Cherraounji (25N 45E)	.79	1.61	6.73	23.82	67.13	113.2	96.66	71.93	48.46	17.6	1.85	.20	450.28
Dumka (24N 87E)	.791	1.06	.55	1.14	3.19	8.15	14.57	13.74	10.79	4.92	.59	.12	59.61
Hyderabad (17N 78E)	.08	.39	.51	.91	1.18	4.21	6.50	5.79	6.42	2.80	.98	.20	29.96
Madras (13N 80E)	.94	.28	.59	.98	2.05	2.09	3.27	4.88	4.64	10.52	12.12	6.19	48.54
Mangalore (13N 75E)	.20	.08	.35	1.57	9.18	38.58	41.69	22.72	10.98	8.11	2.80	.71	136.97
New Delhi (29N 77E)	.98	.87	.67	.28	.31	2.56	8.31	4.84	5.91	1.22	.04	.20	28.15
Colombo (7N 80E)	3.46	3.78	4.64	10.24	13.9	8.35	5.51	4.88	4.25	13.94	12.76	6.81	94.37
Trincomalee (9N 81E)	8.31	3.74	1.89	3.03	2.68	.71	2.13	4.06	3.50	9.26	13.98	14.7	67.99
Chittagong City (22N 92E)	.39	.91	2.28	4.57	11.22	19.97	25.28	22.52	13.55	8.97	2.20	.67	113.52
Karachi (25N 67E)	.28	.43	.24	.08	.00	.28	3.78	1.97	.59	.08	.08	.24	8.03

Source: **World Weather Records 1951-60,** U.S. Department of Commerce, Volume 4 Asia, 1967.

SUMMER RAINFALL STATISTICS

Dumka, India 24° ,16'N,87°',15'E Average Annual Precipitation 59.6

	April	May	June	July
1951	.12	1.4	8.3	23.
1952	1.5	4.3	9.3	14.8
1953	0	1.3	8.7	19.3
1954	0	2.4	9.8	14.4
1955	1.1	1.9	6.8	15.9
1956	2.3	4.3	13.	10.2
1957	0	0	4.4	9.9
1958	.4	3.4	3.7	14.2
1959	.2	1.3	6.	12.7
1960	0	1.3	5.2	11.1
Long term average	1.1	3.2	8.2	14.6

New Delhi, India 28 ,35'N,77 ,12'E Average Annual Precipitation 28.2

	May	June	July	August
1951	.1	.5	4.9	3.1
1952	1.1	1.5	2.1	12.7
1953	.1	1.8	9.6	10.
1954	0	1.	9.2	.6
1955	.3	2.1	4.5	9.1
1956	0	1.1	11.3	8.7
1957	.4	2.	10.2	4.1
1958	.31	.3	17.8	9.4
1959	.9	1.	5.	8.6
1960	0	1.4	8.7	14.1
Long term average	.3	2.6	8.3	6.8

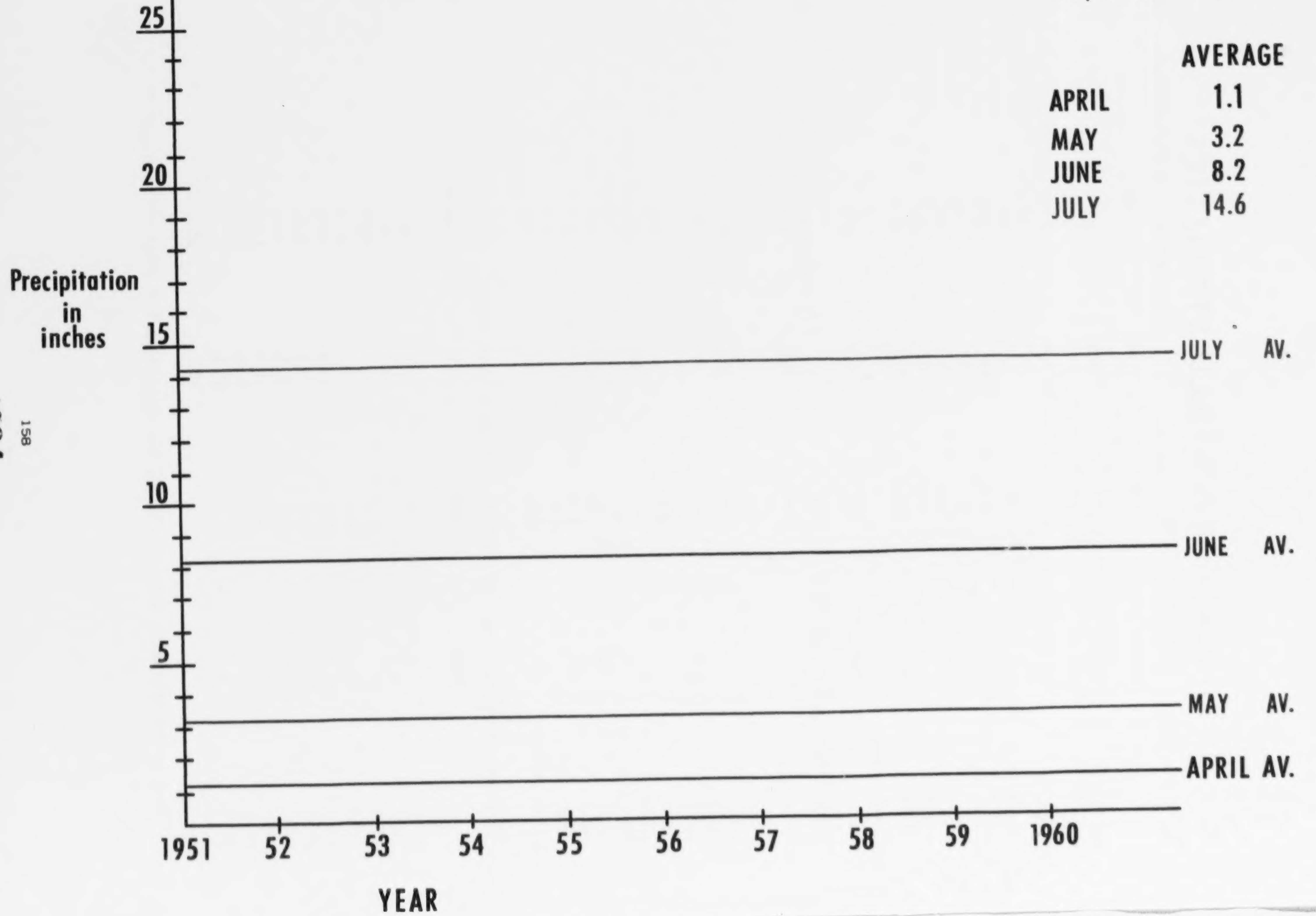
Chittagony City, Pakistan 22 , 21'N,91 ,51'E Av. Annual Precp. 112.5

	May	June	July	August
1951	5.1	17.4	22.8	30.3
1952	4.3	12.	17.1	13.3
1953	25.	21.6	29.	26.8
1954	10.	36.4	24.3	33.8
1955	12.8	16.8	51.3	12.3
1956	17.	25.8	8.3	25.5
1957	3.4	14.1	26.1	14.5
1958	11.3	9.8	11.2	14.9
1959	9.7	24.7	20.5	32.4
1960	4.6	16.4	29.3	11.7
Long term average	11.2	20.	25.3	25.3

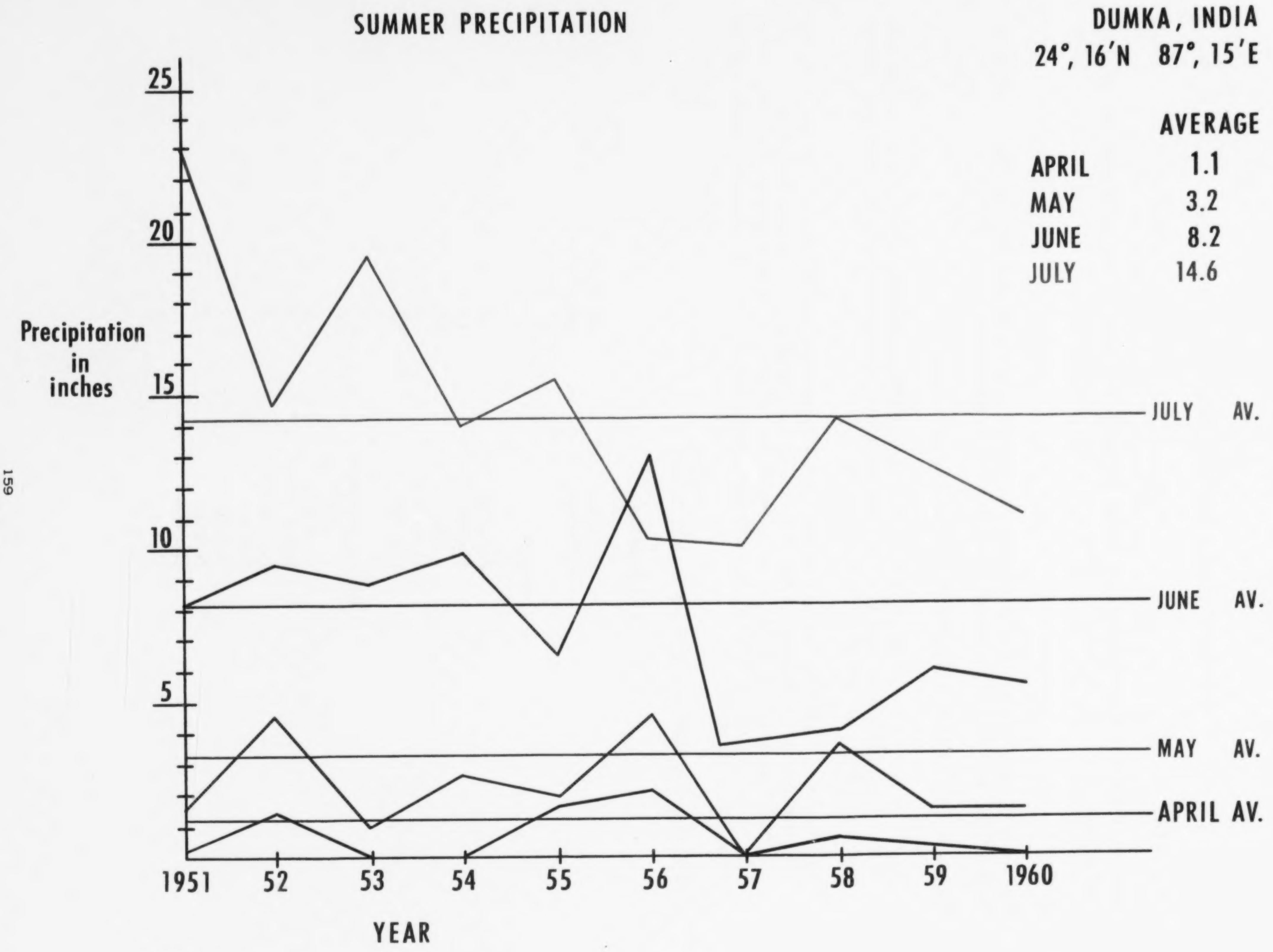
Source: **World Weather Records** 1951-60, Volume 4, Asia, U.S. Dept. of Commerce 1967

SUMMER PRECIPITATION

DUMKA, INDIA
24°, 16′N 87°, 15′E



SUMMER PRECIPITATION



Concept III

Although there are large cities in the Indian subcontinent, most of the population live in small rural villages.

Content

Most of the people in the Indian subcontinent live in small cities and villages. This is related to the fact that about 70% of the population is involved in agriculture.

The teacher should do the following to emphasize the above point:

In India there are 650,000 villages of less than 5,000 population. These average about 520. Multiplying 650,000 by 520 gives a total population in these villages of about 438 million which is a sizable percent of the total population.

The teacher should also list and locate the few large cities and emphasize how few there are compared to the population of the area. Have the students find out how many cities in the United States are over ½ million as a comparison. The U. S. with a smaller total population has more large cities. Why? Is this difference related to the level of industrialization and its association with cities?

Population of larger cities in India and Pakistan

Over 2 million	
Calcutta	4.2
Bombay	2.9
1-2 million	
Karachi	1.9
Madras	1.7
Lahore	1.3
Hyderabad	1.2
Gujarat	1.1
½ million - 1 million	
Cawnpore	.9
Delhi	.9
Bangalore	.9
Poona	.7
Lucknew	.7
Nagpur	.6
Benares	.6
Dacca	.6

Howrah	.5
Agra	.5

What percentage of the total population of India and Pakistan are in the cities?

Learning Activities

On an outline map, show the major cities of the Indian subcontinent. Use some device to show different size cities, either different colored dots, different size circles, or different length columns.

Concept IV

Large quantities of foodstuffs are produced in the Indian subcontinent, but generally agriculture is inefficient with output per person and per unit of land being among the lowest in the world.

Content

For this, one could obtain statistics of production of various crops from the **Statistical Abstract of the U. S.** which includes some international statistics. The class could also calculate the percentage of the worlds supply produced in India. One should examine agricultural maps in an atlas. On the basis of these observations, the class could list the most important crops in India and where they are grown. One could also relate the crop pattern to the areal rainfall pattern if the teacher could obtain production figures for various years. Compare the output with the rainfall figures for the years 1951-1960 as discussed in concept No. II. Do the smaller production figures coincide with years of lower rainfall?

Yield:

An important point that needs to be made is the rather low output per unit of land in the area. The table gives the production and acreage for some selected countries. The students could calculate the yields to see where India and Pakistan stand in relation to the other countries and to the world average. This could lead to a discussion of the possible reasons for this low yield and possible opportunities for increasing yields. The reasons could be listed under environmental (low rainfall, vagaries of the monsoon), economic (lack of capital for fertilizers and tools), and cultural (resistance to change, conservatism of poverty). The students could also calculate the per capita average of arable land to put an idea of the population pressure on the land using the following statistics.

Percent arable including fallow and orchards:

India	48%
Pakistan	26%
Ceylon	23%
Nepal	26%

RICE PRODUCTION

SELECTED COUNTRIES — Late 1950's

COUNTRY	PRODUCTION (tons)	ACRES	YIELD (lbs./acre)
Brazil	5,000,000	7,200,000	
Cambodia	1,500,000	3,400,000	
China	94,000,000	78,200,000	
India	48,000,000	91,400,000	
Indonesia	13,000,000	17,200,000	
Japan	18,000,000	9,100,000	
Laos	580,000	1,600,000	
Pakistan	14,000,000	22,700,000	
Thailand	9,000,000	16,200,000	
United States	3,000,000	1,900,000	
World Average			1890

Source:

Ginsburg, **Norton. Atlas of Economic Development.** Chicago: The University of Chicago Press, 1961. **Statistical Abstract of the United States** (various years), U. S. Department of Commerce, Bureau of the Census, 1966.

WHEAT PRODUCTION

SELECTED COUNTRIES — Late 1950's

COUNTRY	PRODUCTION (tons)	ACRES	YIELD (lbs./acre)
Argentina	6,500,000	11,000,000	________
Burma	4,000	2,800	________
China	35,000,000	91,000,000	________
Denmark	600,000	3,200,000	________
India	11,000,000	35,300,000	________
Japan	9,000,000	9,400,000	________
Union of South Africa	870,000	3,000,000	________
United States	36,000,000	48,000,000	________
Pakistan	4,000,000	11,700,000	________
Taiwan	25,000	31,000	________
World Average			1050

Source:

Ginsburg, Norton. **Atlas of Economic Development.** Chicago: The University of Chicago Press, 1961. **Statistical Abstract of the United States** (various years), U. S. Department of Commerce, Bureau of the Census, 1966.

ANSWERS

WHEAT PRODUCTION

COUNTRY	YIELD
Argentina	1181
Burma	286
China	765
Denmark	3750
India	623
Japan	1915
Union of South Africa	580
United States	1500
Pakistan	684
Taiwan	1610

RICE PRODUCTION

COUNTRY	YIELD
Brazil	1388
Cambodia	882
China	2404
India	1050
Indonesia	1512
Japan	3956
Laos	725
Pakistan	1234
Thailand	1111
United States	3158

Learning Activities

Study the climatic conditions necessary for growing rice, wheat, cotton, jute, tea, etc.
Irrigation practices in the Indian subcontinent.
Surplus United States agricultural shipments to India.
The significance of cattle in India.

Make a list of the possible ways agricultural production can be increased, then apply this list to the Indian subcontinent, answering the general question of what they would need to do to increase production and the obstacles to accomplishing this.

Obtain statistics for total production of wheat and rice in India and Pakistan and divide by the population to see how much there is produced per person. Compare these figures with similar figures for the United States and other countries.

Concept V

The Indian subcontinent has many of the raw materials required for industrial growth and industrial production, but the increased production rate is erased annually by the increase in population.

UNIT IX THE INDIAN SUBCONTINENT

Content

Points to emphasize and investigate:

The kinds, amount and location of raw materials, especially coal and iron.

West of Calcutta, there are iron and coal deposits in close proximity making for an iron and steel-making complex, especially at Jamshedpur.

The point that there were large industrial enterprises in India very early, established by the British, but that industrialization has never really made a "breakthrough."

There has been a great deal of emphasis on increasing industrial production in India since independence, but that growth has not kept pace with population growth.

The future success or failure of India in solving the problems of the large population is very closely related to the success or failure of India to industrialize.

Concept VI

India and Pakistan are each independent, sovereign states but a feeling for the idea of an Indian nation and a Pakistan nation has not as yet developed because of the many diverse cultural factors in each state.

Content

This concept might be approached by using some of the terminology from political geography. In political geography the term **state** refers to a geographic area controlled by one government that is sovereign and independent. **Nation,** however, refers to the feeling of cohesiveness or unity that a group of people feel for each other. A feeling of nationhood refers to an almost psychological feeling of loyalty to other people. The state and nation may coincide or they may not. Two additional terms, **centrifugal** and **centripetal,** refer to the factors which either divide or unify a people. The term centrifugal force refers to those diverse factors which tend to divide or pull a people apart. Centripetal forces are things which act to unify or pull people together in a feeling of nationhood.

The Indian subcontinent offers good examples of states trying to achieve nationhood. This might be discussed by first having the students make a list of the factors which, in general, would act to unify or divide a people and then apply these to India and Pakistan. The various centrifugal and centripetal forces would become obvious as one reads the textbook material on the states or looked at maps of things such as language and religion.

Centrifugal Forces:

different languages
non-contiguous territories
different races & subraces
varying historical background
different political beliefs

e.g., East & West Pakistan
e.g., Lighter in North India, darker in South

provincialism	e.g., Loyalty to region over nation
irredentism	e.g., Minority groups who feel they should be in another state

Centripetal Forces:

common language	e.g., Generally Moslem in Pakistan, Hindu in India. Hinduism is a broad term for a whole ethical and spiritual system which can encompass many varying beliefs.
same religion or beliefs	
same racial characteristics	e.g., Nehru in India
common heroes, symbols	e.g., Against British for Independence.
common struggle	e.g., English
a lingua franca in case of diverse languages	e.g., Chinese attacks on India.
common outside threat	

Pupils should discuss the possible reason for this diversity. It is related to the various historical invasions of the area generally from the Northwest. Each wave pushed the indigenous people further south into more isolated areas.

Learning Activities

Keep a file of clippings on India—Pakistan relations, problems of Kashmir, border clashes with Red China, etc.

Have a debate between teams of students representing Pakistan and India over the Kashmir problem.

Debate the topic, "English should not be taught in the schools of India."

Draw a map of the Indian subcontinent showing with arrows the paths and dates of the historical invasions of the area.

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UNIT IX THE INDIAN SUBCONTINENT

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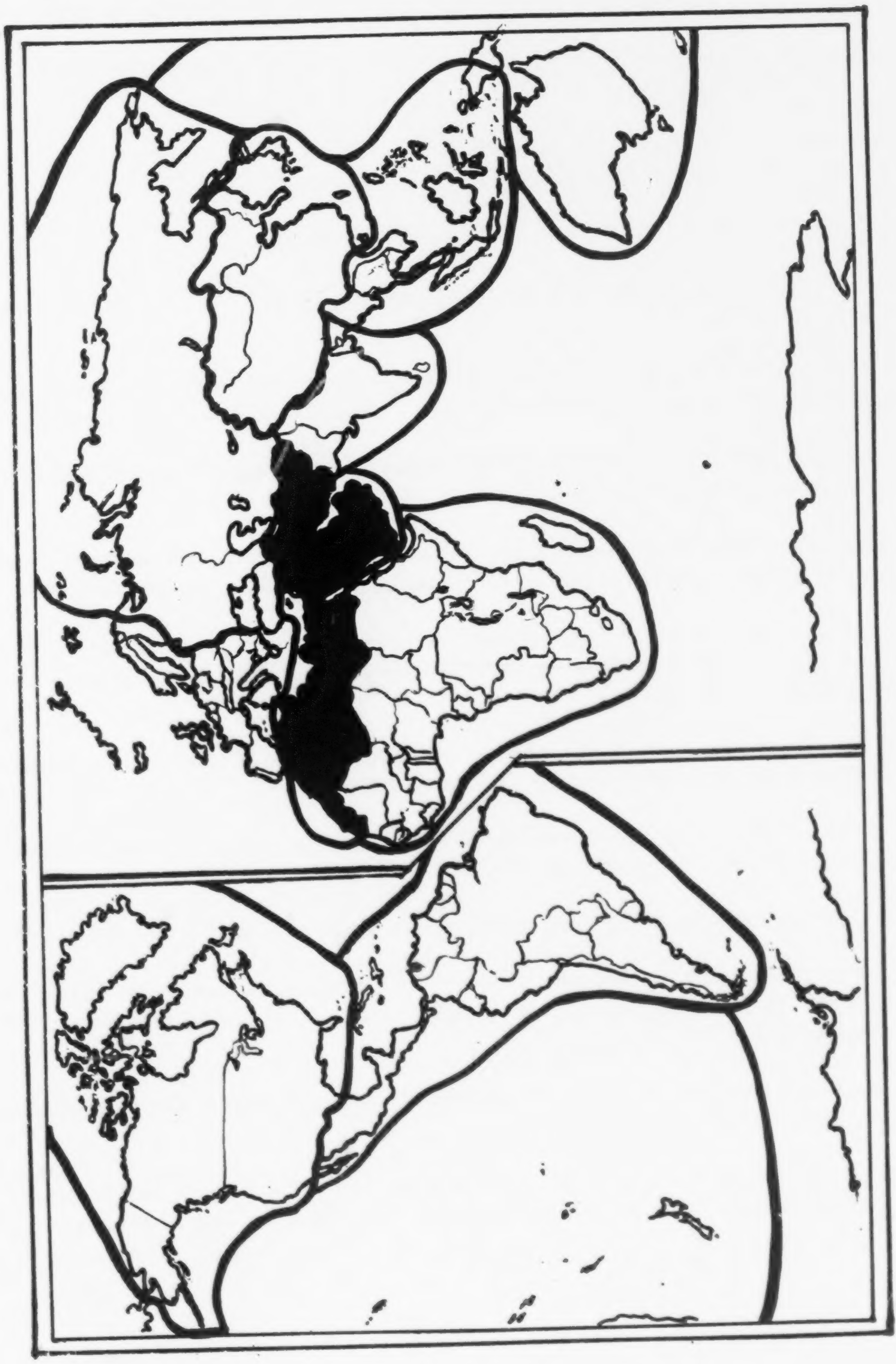
UNIT X THE MIDDLE EAST



UNIT X

THE MIDDLE EAST

Suggested Time: Two Weeks

RATIONALE

The Middle East and North Africa have enough in common to be treated together or as a region; thus the total area is captioned the Middle East. This vast area, stretching from the Atlantic Ocean on the west to the mountains of central Asia on the east, is generally referred to as desert.

The Near East part of the area has long attracted particular attention. Much of our ancient history, literature, sculpture, law, religion, and other facets of life stem from the peoples who occupied well-known places reaching from Istanbul to the Arabian Sea and from Khartoum to the Caspian Sea. Babylonia, Baghdad; Cairo, Egypt; Asia Minor, Constantinople; Palestine, Jerusalem; Arabia, Mecca; Nile, Jordan; Red Sea, Dead Sea, Euxine, Hellespont, Tigris, Euphrates are place names common in secondary vocabularies. Terms relating to people are similarly common. Medes, Persians, Arabs, Abraham, Moses, Jesus, Mohammed, Hammurabi, and Nebuchadnezzar provide a sampling of these, while nomad, camel, caravan, chariot, shepherd, pyramid, and mummy are closely associated.

Two thousand years ago, it could easily have been assumed that the Near East would lead the world for ages to come, but such has not been the case. Achievement among these peoples has not been great and is largely confined to urban elements.

In most of the total area, a large percentage of the people lead a pastoral-agricultural life, not greatly different from that of ancient times. Thus, many of the early unknown parts of the earth are now far ahead of these past leaders of the Near East.

CONCEPTS

I. The Middle East, centrally located between Europe, Africa and much of Asia, has a "crossroads" characteristic where centuries of traffic between clashing civilizations have left their influence.

II. Dryness is a common characteristic of this region. Water especially holds the key to life in this area and ground water tables are responsible for the only clusters of dense population.

III. The food producing activities of this area are influenced by the dryness of the region. Agriculture is almost totally dependent on irrigation.

IV. The religions of Islam, Judaism, and Christianity arising in this region have played a vital role in its own and in other world cultures. (The entire world has been affected by these religious beliefs.)

V. The world's greatest oil reserves are in this region and the consequent large exports of oil are of important significance to the rest of the world.

VI. The Industrial Revolution is only beginning to appear in this region. The process of change has been very slow in the Middle East—Israel being the exception.

Concept I

The Middle East, centrally located between Europe, Africa, and much of Asia, has a "crossroads" characteristic where centuries of traffic between clashing civilizations have left their influence.

Content

The location of the Middle East is still significant. The area is often referred to as a land bridge between Asia, Africa, and Europe. Note that the position and shape give it advantage over routes between both bodies of land and of water—a sort of crossroads control. For thousands of years traders and armies from Iran and farther east used land routes through Asia Minor (Turkey) and across the narrow Turkish Straits into Europe. Similar use has been made of the land connecting Egypt with Asia. A less mentioned route extended through the Fertile Crescent between the Persian Gulf and the eastern Mediterranean Sea. In recent centuries the water routes have been given more attention. Both the Straits and the Suez Canal are used extensively. In general, all countries have access to these shipping routes, but the Soviet Union has been particularly concerned about the Straits as an outlet from the Black Sea into the Mediterranean; western Europe, notably Britain and France, have been equally concerned about the Suez-Red Sea traffic lane. Important air lines follow rather closely most of the old land routes, and great pipelines have been laid for transferring oil from Kuwait, Iran, and Arabia to east Mediterranean ports. Control of these routes has been the basis for numerous conflicts. The Soviet Union has been involved many times; two recent brief wars have been focused on the Suez and even the pipelines have been cut during uprisings. There is some indication that the location of the eastern Mediterranean area is losing some of its importance. With the use of huge cargo ships (as much as 100,000 ton capacity) it is found for some westward bound cargoes, as oil from the Persian Gulf ports, to be less costly by way of the Cape of Good Hope than through the Suez Canal. Also, if necessary, the air routes could be shifted without undue hardship.

Learning Activities

Map Work:

On an outline map of the area (map may be traced from another map) print names of countries, seas, and larger rivers. Locate some of the old trails that show the Near East to be an area of trade routes and crossroads.

Locate by dot or circle a few of the larger cities of each country.

After all the pen work is done the map may be colored, using different colors for the various countries.

UNIT X THE MIDDLE EAST

Questions and problems:

Why is the location of the Suez Canal important?
What is meant by the reference to the Strait of Gibraltar as a strategic position?
What seems to be the basic cause of 14 wars between Turkey and the Soviet Union?
Give what you concluded is the leading factor in Isreal's frequent difficulties with her neighbors.
How are the cities and the trade routes related?

Concept II

Dryness is a common characteristic of this region. Water especially holds the key to life in this area and ground water tables are responsible for the only clusters of dense population.

Content

Lack of water is the number one problem.

Rainfall is so scarce that the area in general is referred to as desert.

Much of the land has an average annual rainfall of less than four inches, and years may pass without any.

Many of the lakes and pools have considerable salt content.

Rainfall is poorly distributed through the year. Most of it comes in the winter season, with summers almost rainless, when moisture is most needed for plant growth. Greater evaporation in the high sun season further reduces any available water.

The summers are long and hot with much wind, while winters bring cold to the interior highlands. The diurnal range of temperature tends to be great. In the hot season the clear morning sky and dry air let the sun's heat in freely, and the dry earth, with little plant cover, heats rapidly. By ten o'clock the day is hot and by three or four o'clock the temperature may reach 105 or 110 degrees. In Libya, 136 degrees has been recorded.

The rapid and intense heating of the air often causes strong convectional winds. Then the blowing sand darkens the sky, and, with its cutting and choking effects, makes outdoor life miserable. In the uplands of Iran and inner Turkey, wintry blasts of chilling winds occasionally sweep in from the north or northeast and send the temperature well below zero.

Native life of the original state was sparse. Because of droughty conditions, vegetation was largely scrubby and widely spaced, except in the higher, rainier parts. Animal life was similarly scant. The herbivora (plant-eating animals) were not abundant because of scant plant life for food, while carnivora (flesh-eating animals) were limited by scarcity of the other.

Islands of productive lands, often widely separated, are present here and there over the area. Some of these islands are naturally watered coastal plains, as the coasts of the Aegean and Black Seas, and in various irrigated river valleys, as the Nile, Tigris, Euphrates, and Jordan. The mountains are also productive. They "produce" water for growing forests on the mountains and for irrigating crops in the valleys.

The mountains, rivers, and river valleys of the Middle East are of exceptional importance. Various mountain areas (the Atlas Mountains of North Africa, the Taurus Mountains of Turkey, the Elburz and Zagros mountains of Iran, and the higher parts of Lebanon) are of sufficient height to cool winds that move over them causing rain. This is an example of orographic precipitation. As a result, both trees and grass grow on the mountains, and extra water forms rivers for the lower, dry lands. Thus, the oases people are quite dependent upon these life giving rivers, and the pastoral people are in part dependent upon the mountain grasses. Without the rivers, the oases, where most of the people live, would be desert space. Because of the lush summer pasturage of the mountains, as well as the droughty summers of the lowlands, many animals are driven to the mountains for grazing during that season. This practice is called "transhumance" or "vertical herding" as compared to nomadism which usually refers to horizontal herding. Conversely, forest products are moved from the mountains to the lowlands for use there.

Village life is the foundation of Middle East development, but urbanization is gaining rapidly in numbers and importance. Almost 80 percent of the people live in rural agrarian communities. Most of the villages are small, compact clusters of mud-walled homes, with perhaps a shrine, a mosque, and a few small shops. Almost all the food is produced by these villagers and the village is the chief market for the urban manufacturers. Villages are present about everywhere a reliable water supply is available. Particular areas include the better parts of the Mediterranean, Black, and Caspian coasts, the uplands of the Fertile Crescent, and the irrigated river valleys. Conspicuous in the last are the Nile, Jordan, and Tigris-Euphrates valleys, in which agriculture is the basis of life.

Urbanization, however, is gaining in numbers and recognition. Perhaps ten percent of the people live in cities of more than 25,000. More modern tools and machines for production and transportation make it possible for fewer people to produce and deliver foods for the cities. Income from the rich oil development and increased industry are conducive to urban growth. Similarly, the increasing tourist trade is bringing to the cities annually many millions of dollars. Twelve cities (Cairo, Istanbul, Tehran, Ankara, Aleppo, Beirut, Alexandria, Casablanca, Tunis, Algiers, Damascus, and Baghdad) exceed 500,000 each. More than 100 other cities are conspicuously confined to the Lower Nile, the Fertile Crescent, Northwestern Iran, about the Straits, and a few in coastal Northwestern Africa. The distribution of inland cities corresponds closely to that of water over the area.

Learning Activities

Questions and problems:

What is the meaning of: "The Middle East in general is an inhospitable land."

Since Missouri gets about 40 inches of rainfall a year, how much would you suggest that the Middle East needs to carry on agriculture profitably?

Why is some of the water, as the Dead Sea, salt water?

UNIT X THE MIDDLE EAST

Why is there so much difference in diurnal range in summer temperature?

Why do temperatures vary greatly from place to place over the area?

How can you account for the severe sandstorms?

Granting the same wind conditions, do you think of any possible change that would largely eliminate the sandstorms?

Why is there more rain on the mountains of the Middle East than on the lowlands? Is this characteristic of all the Middle East only?

Why are the mountains of special value?

What does reference to "Cedars of Lebanon" suggest?

What differences would there most likely have been in valley developments in the Middle East had there been no high mountains in the general area?

Where do the waters used for irrigation in Egypt originate?

What results are expected from the Aswan High Dam when in full operation?

What are conditions of irrigation in the Tigris-Euphrates area?

Do you know of any area of the United States in which the people are so closely "tied" to rivers as are the people of the Middle East?

Does there seem to be any explanation for the large percentage of village population?

Do you think of any advantages to living in villages over that of separated homes?

Does it seem logical that village life is less prevalent in Arabia than in the other countries?

Which seems more likely; that the village element retain its present percentage of the population, or decline relatively?

Is it logical that the villagers produce almost all the food? Explain.

Which crops fit especially well into the intensive land use?

Note changing conditions conducive to urbanization:

Improved machines for production
Improved transportation
Industrial development
The oil industry
Tourist activity

Concept III

The food producing activities of this area are influenced by the dryness of the region. Agriculture is almost totally dependent upon irrigation.

Content

The pastoral-agricultural life and nomadism are still important in the Middle East. Extensive dry, rugged lands, scarcely suited to other land use, as well as the long established practices, tend to perpetuate these activities. Some seven to eight precent of the people remain nomadic, which means that this element has changed little in the last 1,000 years. The pastoral-agricultural segment is far more numerous, perhaps twenty percent of the total population. In parts of Iraq, Iran, and Turkey, where rainfall is only sufficient to support pasturage and scant cropping, the mass of people may be thusly engaged. Many on the peripheries of the oases also rely in part on pastoral animals. These elements, comprising little more than one-fourth the total population, really occupy, by far, most of the productive land. Life in general is hard and the standard of living low. Modernization has worked against nomadism. Items of the nomad are in less demand and their raids are more precarious and less remunerative. This segment of the population is steadily declining, both in numbers and prestige.

The Middle East seems to have been relatively far better suited to early habitation than to modern life. Then the scant grass cover, nutritious from the unleached soils, furnished fair pasturage for the limited flocks and herds possessed by the sparse population. The limited forests of the humid mountain areas were sufficient for the scant forest materials then used. The crude homes of early time were far more practical in the area than in the more rigorous climate of higher latitudes. The paucity of minerals was of little concern, since minerals in general were little used. Oases of water were far more valuable in that age than would have been oases of oil. The limited productive lands of the oases were far more nearly adequate than at present with greatly increased population. Finally, the location of the area as a crossroads between Asia, Africa, and Europe, perhaps was of greater relative importance then than at present.

Learning Activities

Questions and **problems:**

Why have certain occupations, as pastoralism, changed so little through the ages?

What seems to be the critical factor in land use?

How do you account for the low standard of living among a large percentage of the people?

How is modernization affecting the nomadic element? Explain.

Do you think modernization will crowd pastoralism out rather rapidly or will that occupation continue on a rather large scale?

What has brought about a relatively lower evaluation of this general area?

What peculiar home type has proved practical for the nomads?

How have the oases become more important than in early time?

How has the soil been greatly damaged through practices of the past ages?

How would practices in conserving soils in the Middle East necessarily differ from these practices in,Missouri? (Consider wind and water especially.)

Concept IV

The religions of Islam, Judaism, and Christianity arising in this region have played a vital role in its own and in other world cultures. This region is mainly Arabic in language and people. (The entire world has been affected by these religious beliefs.)

Content

Religion has long been a significant factor in the Middle East way of life. In this crossroads area of rivalry, turmoil, invasion, and exchange of territory, empires have risen and fallen, and with them, the establishment of three of the world's greatest religions—Judaism, Christianity and Islam. In turn, these religions have played great roles in the affairs of the Middle East, as well as extending their influence into other parts of the world. The teachings of Mohammed of Mecca had great appeal to the poor and illiterate of the Arab world. It has been stated that the "Bedouin is the raw material of Islam," and it was from the harsh desert lands of Arabia that the sword brandishing Bedouin spread this religion. Today, a vast majority of the people in all parts of the Middle East, except Israel, Turkey, and Lebanon, are Moslems. Half or more of the people in Turkey and Lebanon are Moslems, and a considerable number of this sect are in Israel. Due largely to desert conditions and lack of development, however, population centers are so widely separated that little progress has ever been made toward political union of the general area, or even cooperation among the several states. For example, tourists have not been allowed to pass directly from Israel into Jordan. In the recent war between Israel and some Arab states, it was reported that the only point of agreement among the Arab states was that of destroying Israel.

Learning Activities

Questions and problems:

Considering the natural environment of the Middle East, does it seem logical that Islam became the major religion of that area?

What human element has seemed to fit best into the religion of Mohammed?

How did the Moslems spread their religion so rapidly?

What attitude toward means of survival tends to develop among people subjected to extreme hardship and hunger?

Suggest some reasons for the extreme Arab opposition to Israel—historically and present day.

Concept V

The world's greatest oil reserves are in this region and the consequent large exports of oil are of important significance to the rest of the world.

Content

The oil is a rich and troublesome resource. The discovery and development of the oil industry have brought revolutionary changes to the Middle East. In this inhospitable land, which has been largely avoided during the ages, has arisen one of the chief oil producing areas of the world. Oil production of Kuwait alone brought in $3,000,000,000 during the five-year period, 1963-1967—$6,000 per capita for the approximately half million population. Foreign countries, chiefly American and British, have promoted the industry. Other actively interested countries include the Netherlands, France, Italy, and Japan. Still other countries, notably the Soviet Union, have projected their rivalry to the point of minor conflict, with apparent potential for more serious consequences.

Learning Activities

Questions and problems:

Since the United States produces so much oil at home, does it seem strange that it plays a leading role in the Middle East oil industry?

Why is oil piped from the Persian Gulf area west to the Mediterranean ports instead of east toward India?

What routes may be followed by ships from the Persian Gulf to western Europe?

Why has the Soviet Union not taken more interest in Middle East oil activities?

At the high rate of the oil production, does it seem likely that the oil reserves will soon be exhausted? Why?

Concept VI

The Industrial Revolution is only beginning to appear in this region. The process of change has been very slow in the Middle East—Israel being the exception.

Content

The rapid development of Israel may be attributed to its national concept and its technological skills. Most of the immigrants to this young nation have viewed themselves as returning to their homeland though they had never seen it before.

This national identity and identifying is a powerful force for compacting any nation into a strong union of citizens which act and move as one person. They have their own "Manifest Destiny" which includes their existence as a nation and their development as a leading power in the Middle East.

The technological skills are evidenced by its leading of the world in the number of physicians per capita. Scientists, engineers, and other professionally skilled persons are busy creating a nation. No task seems to be too great for them. Israel has been helped in this by aid from the United States, both government and nongovernment.

Learning Activities

Compare this area with that of Kuwait, Iraq, Egypt, and Iran.

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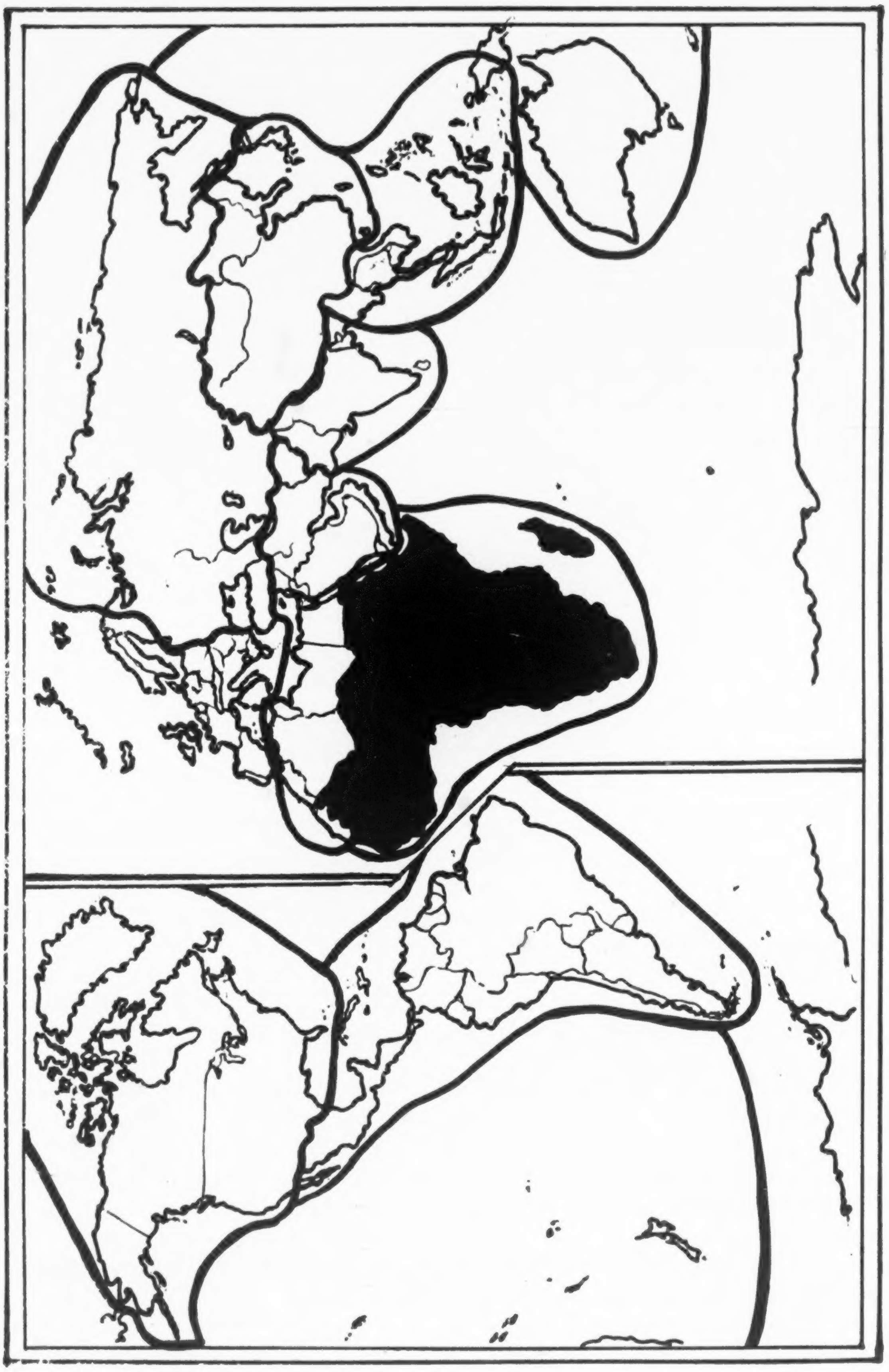
UNIT XI AFRICA



UNIT XI

AFRICA

Suggested Time: Three weeks

RATIONALE

Africa is mainly a plateau continent, undeveloped for the most part, with a relatively sparse population. Lying astride the Equator, it is the only continent with a zonation of comparable tropical climates poleward from the Equator. Falls and rapids on its large rivers, steep outfacing escarpments, in addition to barriers of desert and jungle, contributed to its cognomen the "Dark Continent." Its people, mainly in tribal units, almost all of whom were under European colonial control from the middle of the nineteenth century until after World War II, are separated into a host of new states experiencing the many problems of nationalism. Since this unique continent is becoming of greater importance to the world family of countries, a depth study of it as a world region is required.

CONCEPTS

I. Africa is the only continent experiencing a comparable zonation of climates from the Equator poleward to the subtropical latitudes. This zonation accounts for a similar zonation in natural vegetation and soils.

II. Living as tribal units in different types of environment, African people have never been united as natural units and have difficulty in working together. (Colonial and missionary diversity has also not contributed to African unity.)

III. Although Africa lies close to Europe, barriers to transportation such as falls and rapids on its rivers, steep outfacing escarpments of its plateau mainland, and large expanses of waterless desert and impenetrable jungle, held back the early efforts of explorers, missionaries, prospectors, and traders to reach its interior.

IV. Once opened, six major European powers struggled for control of parts of Africa, with only Liberia and Ethiopia remaining as free and independent people.

V. European colonialism resulted in a flow of primary products from African forests, mines and plantations to European ports in exchange for European manufactured goods.

VI. With great potentials in minerals, lumber, agriculture and other raw materials, African people are now experiencing agricultural, industrial, technological and social revolutions as well as problems arising from political independence and reorganization.

Concept I

Africa is the only continent experiencing a comparable zonation of climates from the Equator poleward to the subtropical latitudes. This zonation accounts for a similar zonation in natural vegetation and soils.

Content

The Equator almost divides Africa into two equal parts with the northernmost part reaching Bizerte, about 37° north latitude, and the southernmost extending to Cape Agulhas at about 35° south latitude.

Because of the western "bulge" of the Guinea Coast, Africa's greater area is north of the equator. In miles, however, the distance from the equator to Bizerte and to Cape Agulhas is nearly equal.

The central or equatorial area has a **rainy tropical climate** (except where interrupted by high mountains in East Africa); with a rainforest type of natural vegetation and generally nonproductive laterite soils. The rainforest is generally dense and for the most part consists of three-story vegetation that excludes sunlight from the forest floor. Laterite soils are generally compact in texture because of little humus, and are acid in nature because of excessive leaching by heavy rainfall.

On either side of this central, rainy tropical climate (and usually occurring in pairs) is the **wet and dry tropical climate** with a wet and dry rainfall rhythm, producing broad and high savannas, and semi-lateritic soil. This is the land of big game.

Because of the distinct periods of rainfall and dry weather high savanna grass flourishes instead of forest, except along the rivers and in low river bottoms where rain forest or gallery forest prevails.

Semi-lateritic soils are somewhat better than laterites because of more humus through the decay of grass roots and because of less leaching.

This tropical savanna is a favorable habitat of big game—both herbivorous (the eaters of grass) and carnivorous (flesh), the latter feeding upon the former.

Poleward of the savanna (both to the north and south) and again occurring in pairs roughly from 12° to 18° both north and south, is the **semiarid tropical climate** with short-grass savannas and semidesert soils. Because of the long-dry, short-rainy rhythm, savanna grass is short and scattered with low-growing, drought-resistant trees interspersed—this includes most of the area known formerly as the Kalahari Desert. Soils contain little humus because of sparse vegetation; and because of lack of rainfall, are alkaline rather than acid.

Also poleward of the short-grass savanna are areas with the **arid tropical climate.** These are desert areas—the great Sahara to the north and the smaller Kalahari and Namib to the southwest. These deserts are of unequal size because of the narrowing of the African continent to the south. Many parts of the Sahara are devoid of vegetation while most of the Kalahari and Namib are barren. Desert soils are powdery and alkaline in some areas; other parts are dune covered or are beset with rock rubble—as in parts of the Sahara.

Flanking these deserts are **mediterranean or dry summer subtropical** areas—the Atlas Coast along the Mediterranean Sea on the northwest and the Cape Town district on the south.

These mediterranean subtropical areas have a mild, moist winter and a hot, dry summer. Natural vegetation consists of grass and low, scrubby trees and brush; the soils are alkaline and have more humus than those of the desert.

Despite these "pairings" of climate, natural vegetation and soils to the north and south of the equator, human activities within these "pairs" are not the same.

Differences in native stock have made difference in land use. Colonial ownership—some controlling people who are progressive and others backward, have made for further differences in land use.

Learning Activities

On an outline map of Africa, have students **draw** in the climatic regions. Note that some mountain ranges "interrupt" the regular climatic pattern. Why is this? (see pages 34-35, **Essentials of College Geography** under references)

On a second outline map (after consulting the Oxford Economic Atlas, page 6) sketch in **belts of natural vegetation.**

On a third outline map, draw in soil regions (after map in Oxford Economic Atlas, page 5).

Now, compare maps **one, two** and **three** which you have finished. Note the close association between climate, natural vegetation and soils.

Concept II

Living as tribal units in different types of environment, African people have never been united as natural units and have difficulty in working together. Colonial and missionary diversity has not contributed to African unity.

Content

Negroid people (Negritos) are small of stature and generally primitive in culture. Although they originally lived in the better areas, they were driven out by later invasions of stronger natives and now inhabit the poorest parts of Africa.

> The Negrillo inhabits the Pygmy Forest of rainy central Africa.
> The Bushman lives in the Kalahari Desert, although he has left earlier examples of Bushman art throughout much of southern Africa.
> The Hottentot lives in dry, southwest Africa and in drier parts of Cape Colony.

Guinea Coast Negroes are generally large, well built, and high in native culture. They inhabit lands of the Guinea Coast and near interior river valleys. Best known are the Wolof, Timne, Kru, Fanti, Yoruba and Messi. They were (and some still are) "slash and burn" hoe farmers of the forest areas that lie to the south of the Sudan; hence, they were sedentary in character—simple farmers and excellent craftsmen.

Sudanese Negroes are generally large, well built, and still somewhat nomadic, except where they live in towns and cities.

The Mandigo, Ashanti, Dahomey, Hausa, Fulani and Maddendoah are best known. These people had attained relatively high stages of civilization even before the coming of the Europeans—had cities, schools, universities, arts and crafts. The present area of densest population is in northern Nigeria where large cities have been built through the centuries and where four Mohammedan emirates exist, for these natives were converted to Islam.

Bantu Negroes live south of the Equator and because of varied environmental factors occurring from the west coast to the east, are the most varied in culture and language.

Eastern Bantu inhabit the Eastern Lakes district with its favorable environment; and strongest among these are the Buganda, Akamba, Kikuyu and Yao.

Southern Bantu live in the southern part of the African Highlands (the Drakensberg Mountain district) and include the Bechuana, Basuto, Zulu, Metabele, and Mtetwe, among others.

Hamito-Negroid people live in the northern part of the East African Highlands and are a mixture of Negro and invading Hamite from the Middle East. The Nilotes (Jhilluk and Sinka) inhabit swamplands of the southern Sudan.

The Masai live in the Eastern Highlands in village clusters and have conquered many sedentary agricultural tribes.

The Watussi are akin to the Masai and have terrorized other Negroes in the Ruanda-Urandi District west of Lake Albert.

Non-negro Hamites of North and Northwest Africa are of Middle Eastern stock and are excellent pastoralists. They live along the Mediterranean coast and in interior valleys of the Atlas Mountains.

Semites of Northeast Africa are of Arabian nomad stock. They inhabit the eastern Mediterranean and Red Sea Coasts, and also the Nile Valley—the most densely populated area of the entire continent.

By way of summation, not all native Africans are black, and really black folk are hard to find. Almost every shade of skin color is represented among these many people of varied cultures.

Learning Activities

On an outline map of Africa, **make a simple Ethnic Group Map.**

Note the northern limits of the Bantu and construct a "Bantu Line."

Compare this map with maps on climate and natural vegetation. This will give an excellent idea as to the environment of each group.

Read and make a report (oral or written, as time permits) on one of the following National Geographic Magazine articles:

UNIT XI AFRICA

"My Life with Africa's Little People," February 1966.
"Bushman Art Covers a Quarter of Africa," June 1963.
"Today the Bushman Thrives Only in the Harsh Kalahari," June 1963.
"Proud Primitives: The Nuba People," November 1966.

Concept III

Although Africa lies close to Europe, barriers to transportation such as falls and rapids on its rivers, steep outfacing escarpments of its plateau mainland, and large expanses of waterless deserts and impenetrable jungle, held back the early efforts of explorers, missionaries, prospectors, and traders to reach its interior.

Content

Most African rivers are unreliable in flow because of seasonal rainfall patterns (wet and dry) and are beset with waterfalls and rapids that prevent easy transportation to the interior.

The continent of Africa is largely a series of plateaus with bordering mountain ranges and high outfacing escarpments that separate the high interior from the narrow low-lying coastal lowlands.

The coastline is generally regular, with few deeply indented bays permitting only partial penetration by explorers' ships.

Broad deserts, immense tracts of savanna, and dense river infested rain forests further hindered exploration of the interior.

Europeans, accustomed to **middle latitude climates** also were handicapped by the uninviting conditions of the tropical climates.

Learning Activities

While teaching this unit, **refer frequently to overhead or wall maps** (Physical-political) of Africa.

Have students entitle an outline map, "Africa's Global Position."
Letter in the Equator, Tropic of Cancer, Tropic of Capricorn, and the parallels of Latitude 30° N., and 30° S. (Note how much of Africa lies within the tropics, between 30° N., and 30° S.)
Letter in these surrounding water bodies—Atlantic Ocean, Gulf of Guinea, Indian Ocean, Mediterranean Sea, Red Sea, and Gulf of Eden.

Now, compare your map to the map of Africa on the World Map.

What other continents are crossed by the Equator, Tropics of Cancer and Capricorn, and the 30th parallels of latitude?

What continents lie to the west across the Atlantic? To the north across the Mediterranean Sea? To the east across the Indian Ocean?

What continent is attached to the northeastern part of Africa by the Sinai Peninsula?

What continent lies to the far south across the Polar Sea?

Entitle another map, "Africa's Surface Features." **Have students locate** the following physiographic features and regions:

Letter in the following mountains and indicate their major peaks with elevations: Atlas Mountains with Mr. Toubkal; Ahaggar Mountains with Mt. Tahat; Tibesti Mountains with Pic Tousside; Ethiopian Highlands with Ras Dashan, Amba Farit, Tala, and Tulu Wallel; East African Highlands with Mt. Kilimanjaro and Mt. Kenya; and the Drakensberg Mountains with Mt. aux Sources.

Are these ranges of sufficient height to modify the climate within their areas of occurrence?

Letter in the Katanga Plateau.

Much of the unlettered remaining part consists of plateau country containing desert, scrubland, grassland and rain forest.

Letter in the Sahara Desert; the Congo Basin; the Great Rift Valley of East Africa; the Kalahari Desert region; the Great Karroo. (See if you can find what the word "karroo" means.)

On a third outline map named "Africa's Rivers and Lakes," **locate the following:**

The rivers Nile, White Nile, Blue Nile, Atbara, Niger, Benue, Volta, Shari, Congo, Lualaba, Ubangi, Kasai, Zambezi, Limpopo, Vaal and Orange.

Now, by using a red pencil or pen, locate as many waterfalls on these rivers as you can find on a reliable map. (Just make a red line across the river where the waterfall occurs.) Do the locations of these waterfalls indicate to you how difficult it was for explorers to travel these rivers?

Locate the following lakes: Chad, Tana, Rudolf, Albert, Kioga, Victoria, Tanganyika and Nyasa. How many of these are sources of rivers?

Locate Lake Bangweulu, Lake Mweru, Makarikari Salt Pan, Okavanga Swamp, and Etosha Pan. According to a certain map symbol do these lakes appear to be shallow? What is the meaning of the term "pan"? Does Lake Chad appear to be a shallow or a deep lake?

Concept IV

Once opened, six major European powers struggled for control of parts of Africa with only Liberia and Ethiopia remaining as free and independent people.

Content

Until about 1795, Europeans were content to engage in extractive business (in gold, pepper and slaves) along the coast of Africa. At that time, Europeans became interested in interior exploration to determine what resources the interior contained, and to see if this interior was worth claiming and colonizing. Accordingly, explorers began to penetrate the African interior.

Mungo Park and Richard Lander penetrated West Africa.
Rene Caille and Heinrich Barth explored North Africa and the Sahara.
Richard Burton, John Speke and James Grant explored East Africa and discovered the source of the Nile.
David Livingstone was the great explorer of South Africa.
Henry Morton Stanley explored Central Africa's Congo River.

Favorable reports from explorers resulted in conflicting claims, and all European claimants wanted their "just share" of Africa. So a convention was called in Berlin in 1884-1885 to divide Africa among the claimants.

British influence was already strong in South Africa, largely through the influences of Cecil Rhodes.

So complete was the division of the continent among Britain, France, Germany, Spain, Portugal and Belgium that only Ethiopia and Liberia remained independent.

Ethiopia remained independent in her own right as a Christian country.
Liberia was an American protectorate.

Later, in 1886 and again in 1912, Italy claimed parts of Somaliland, Britrea and Libya. Italy finally conquered Ethiopia in 1935.

As a result of World War I, Germany lost her African colonies to France and Britain—namely, German East Africa, Cameroons (Kameruns), Togoland, and Southwest Africa.

Italy lost her African possessions in World War II.

Since 1960, through a great national movement for independence, the political map of Africa has again greatly changed.

Learning Activities

While teaching this concept, **have students compare** political maps of Africa—just before the Convention of Berlin in 1884-1885, just before World War I, after World War I, again after World War II.

What was the purpose of the Berlin Convention? Why was it held in Berlin?

Another comparison should be made in connection with Concept 6, where a present political map of Africa should be added to Africa's picture of changing political boundaries.

Explain the pattern of African colonizing of each of the six major colonies.

On an outline map of Africa, **sketch the routes** of the following African explorers—Mungo Park, Rene Caille, David Livingstone, Henry Morton Stanley. Have students make a report on any of these explorers.

What part did Cecil Rhodes play in the development of South Africa? See if a student can find anything on Barney Barnato (Barnett Isaacs) and his part in South Africa's development.

Concept V

European colonialism resulted in a flow of primary products from African forests, mines, and plantations to European ports in exchange for European manufactured goods.

Content

Movements of primary products to the coast gave Africa a "spotty" system of transportation that still prevails.

Railroads (many of them short) were built to circumvent falls and rapids on Africa's rivers, or else to connect productive areas with rivers.

Some roads and highways were built where railroads were impractical, or as "feeder" routes to railroad lines or rivers.

Harbors were improved for ocean vessels, and docks at inland river towns were improved for steamboat usage.

Airlines, utilized most by colonial managers, supervisors and buyers, now connect major towns.

In remote areas, human porterage was used to bring commodities to the nearest transportation line. It is still needed in some areas.

Colonialism demanded cheap native labor for forest, plantation, mine, and transportation, and the native became associated with menial, hard work for which he received inadequate pay.

Forest products included tropical woods like mahogany and lignum vitae from (former) French and Belgian Congo; and manihot latex from Mozambique.

Collected products were (and still are) gum arabic from desert scrub trees of Senegal and the short grass Sudan; also honey and beeswax, and fragrant resins and gums from the same general areas, although confined more to the drier margins of the eastern Sudan.

Plantation products were (and still are) produced in accessible areas along the coasts and rivers:

Cacao, palm oil and palm nuts from the Guinea Coast.
Peanuts and shea nuts (Karite) from the Sudan just north of the Guinea Coast.
Bananas from former French Guinea Coast lands, and French Congo.
Cloves from Zanzibar and Temba.

Cotton from Uganda, Kenya and Tanganyika (now Tanzania); also, from the Nile Valley and Senegal.
Pineapples from the Natal Coast.
Citrus, apples and pears from the Capetown district.
Coffee from Ethiopia and Tanzania.

Minerals are wide in occurrence throughout Africa, and developments by Europeans who need minerals for power and industry have been associated with African colonialism.

Iron ore and phosphates from the Atlas countries (Algeria, Morocco, and Tunisia).
Petroleum from the Sahara and from Libya; salt from the Sahara.
Copper from the Katanga and adjacent Zambia (formerly Northern Rhodesia).
Ferro alloys from the Katanga.
Gold and diamonds from South Africa and the Congo (in the Kasai district).
Tin from the Bauchi Plateau of Nigeria; manganese from former Togoland (now a part of Ghana).

European countries receiving these primary products sent manufactured apparel, drugs, medicines, and other commodities of manufacture to Africa. Thus, European colonialism kept Africa in a stage of primary production where cheap native labor was required. Except for some of Africa's largest cities, where simple industry had been established, little manufacturing was done.

Learning Activities

Questions for general discussion:

Why were Europeans so interested in plantation development in **tropical** Africa? What geographic conditions favor the growing of bananas, palm nuts, cacao and cotton? Study an Economic Atlas to see if these commodities are produced within the same regions of Africa. (Compare maps of banana, palm nut, cacao and cotton production and see if in Africa they overlap.)

Likewise, study geographic conditions that favor the growing of coffee, tea, sisal and peanuts. Do these areas of production overlap in Africa?

Refer to an Economic World Map for Africa's major minerals and areas of production (Oxford World Economic Atlas). Name four areas of importance in mineral production.

What indirect effects (favorable or unfavorable) does mining have upon: (1) agriculture, (2) transportation, and (3) general living conditions.

Compare African Cities

Cities perform many functions (activities) and certain groups of cities often have similar functions. After doing the following map exercise, try to find if the cities grouped have similar functions.

Locate Monrovia, Abidjan, Lagos, Mombasa and Dar-es-Salaam. What functions do these cities have in common?

Locate Bamako, Ouagadougou, Niamey, Kano, Fort Lamy and Fort Archambault. How are they similar in function?

Locate Nairobi, Kampala, Kigoma and Albertville. In what ways are these towns similar?

Locate Jadotville, Elisabethville, Mdola, Lusaka and Bulawayo. What do these cities have in common?

Locate Lourenco Marques and Durban. Might these cities be highly competitive. Explain.

Locate Pretoria, Johannesburg and Kimberley. In what ways are these cities alike?

Subjects for Reports (oral or written). Let students select one of the following topics:

"Mairobi, Favored City of Kenya."
"Johannesburg, South Africa's City of Gold."
"The Katanga, Wealth in Copper."
"Kano, Walled City of the Sudan."
"Rwanda-Urandi, Isolated Land."
"The Niger, River of Western Sudan."
"South Africa's Game Preserves."
"The Tsetse Fly, Its Effect Upon Land Settlement."

Concept VI

With great potentials in minerals, lumber, agriculture and other raw materials, African people are now experiencing agricultural, industrial, technological, and social revolutions as well as problems arising from political independence and reorganization.

Content

By 1960, many of the native people of Africa had decided to declare themselves free from European colonialism. From that time onward, free states were formed and the political map of Africa was drastically changed.

Ethiopia free since 1952; Eritrea was federated with it.
Sudan has been free from Anglo-Egyptian condominium since 1955.
Morocco (French, Spanish, and Tangier) became free in 1956.
Tunisia and Guinea became independent in 1958.
Ghana (with Togoland incorporated) declared independence in 1959.
Senegal, Ivory Coast, Ghad, Nigeria, Congo Republic, and the Congo became independent in 1960.
Algeria declared her independence in 1962.

UNIT XI AFRICA

Tanzania (formerly Tanganyika and Zanzibar), Kenya, Zambia (formerly Northern Rhodesia), Malawi (formerly Myasaland), Rhodesia (formerly Southern Rhodesia), Lesotho (formerly Basutoland), and Botswana (formerly Bechuanaland) became independent in 1965.
Uganda became independent in 1966.

Despite their status as free republics, problems still exist. Native Africans have learned that political freedom does not immediately bring white man's prosperity. They are beginning to realize that preparations for modern statehood with respectable status must require time, study, diligent and hard work, personal sacrifice, and native cooperation within each country.

The native African's change from primary production to secondary industry will require knowledge of an intricate business organization that most natives cannot readily grasp; and the development of technical skills that must be acquired through time and practice. Native Africans are beginning to understand that Africa and her newly formed states cannot live to herself or themselves alone, and if they are to depend upon foreign trade, they must ask certain European (or American) experts to return and aid them to the point where they can become more economically productive and thus engage in healthy trade relations with other countries.

The Republic of South Africa and the Republic of Rhodesia (formerly Southern Rhodesia) both with Negro majorities in population numbers, and with white supremacy in government and business management, are presently resisting native moves toward freedom in these countries.

Learning Activities

Report on any five of the following African leaders or statesmen, associating them with their respective region or state, and stating the part that each played or are now playing in the affairs of their country or state. (By the time you read this, some of these will undoubtedly be removed from the scene, either peacefully or forcefully.)

Felix Houphouet Boigny
Moise Tshombe
Cyrille Adoula
Joseph Kasavubu
Joseph Mobutu
Jomo Kenyatta
Johannes G. Strijdom
Albert Luthul
Hendrick F. Verwoerd
Ian Smith
Dr. Hastings Banda
Dr. Kwame Nkrumah
Dr. Julius Nyerere
Kenneth D. Kaunda
Dr. A. Milton Pbate

(Keep record of these changes and add the names of the new leaders.)

Construct a table listing the new, independent states of Africa south of the Sahara, using a separate column for each of these headings in your table.

Name the new state.
Date of independence (year).
Name of present ruler or chief executive.
Capital city of each state.
Area in square miles.

Total population.
Population density per square mile.
Major products—forest, farm or plantation or ranch, mineral.
What patterns can you determine?

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"My Life with Africa's Little People," (February, 1960)
"The Winds of Freedom Stir a Continent," (September, 1960)
"South Africa Close-Up," (November, 1962)
"Freedom's Progress South of the Sahara," (November, 1962)
"Bushman Art Covers a Quarter of Africa," (June, 1963)
"Today the African Bushman Survives in the Harsh Kalahari," (June, 1963)
"I Joined a Sahara Salt Caravan," (November, 1965)
"Ethiopean Adventure," (April, 1965)
"Proud Primitives, the Nuba Peoples," (November, 1966)
"Exploring 1,750,000 years into Man's Past." (October, 1967)
"Madagascar, Island at the End of the Earth," (October, 1967)
"Mountains of the Moon," (March, 1962)

Pamphlets from Ambassador de France, Service de Press et d'Information, 972 Fifth Avenue, New York.

Basic Data on Algeria
The Gabon Republic
The Republic of the Congo
The Central African Republic
French Somaliland
The Republic of the Ivory Coast
The Republic of Upper Volta
The Malagasy Republic
The Republic of Dahomey
Reunion, the Perfume Island

Leaflets from "Focus," the American Geographical Society

Ethopia (April, 1965)
Kenya (February, 1966)
The Sudan (September, 1966)
Libya (November, 1966)
South Africa (June, 1967)
Mali (September, 1967)

"Ivory Coast, Africa's Big Success Story," Reader's Digest (January, 1965).

UNIT XI AFRICA

Suggested Visual Aids:

Association Films, Inc., 1108 Jackson Street, Dallas, Texas

"A Changing Liberia," 22 minutes (black and white)
"African Rhythms;; 12 minutes (black and white)

Contemporary Films, Inc., 267 W. 25th Street, New York 1, New York.

"Hausa Village," 22 minutes (black and white)
"Lobola," 26 minutes (black and white)
"Twilight Forest," 27 minutes (color)
"Black and White in South Africa," 30 minutes (black and white)
"Challenge in Nigeria," 20 minutes, (black and white)
"Giant in the Sun," (Nigeria), 20 minutes (black and white)
"Question in Togoland," 20 minutes (color)
"Tanganyika Today," 26 minutes (black and white)

McGraw Hill Book Company, Inc., Text-Film Department, 330 West 42nd Street, New York 36.

"Family of Ghana," 27 minutes (black and white)
"Road to Independence," 30 minutes (black and white)

Encyclopaedia Britannica Films, Inc., 1150 Willmette Avenue, Willmette, Illinois.

"People of the Congo," (The Mangbettu) 11 minutes (color)
"Pygmies of Africa," 20 minutes (black and white)
"Remnants of a Race," 18 minutes (color)

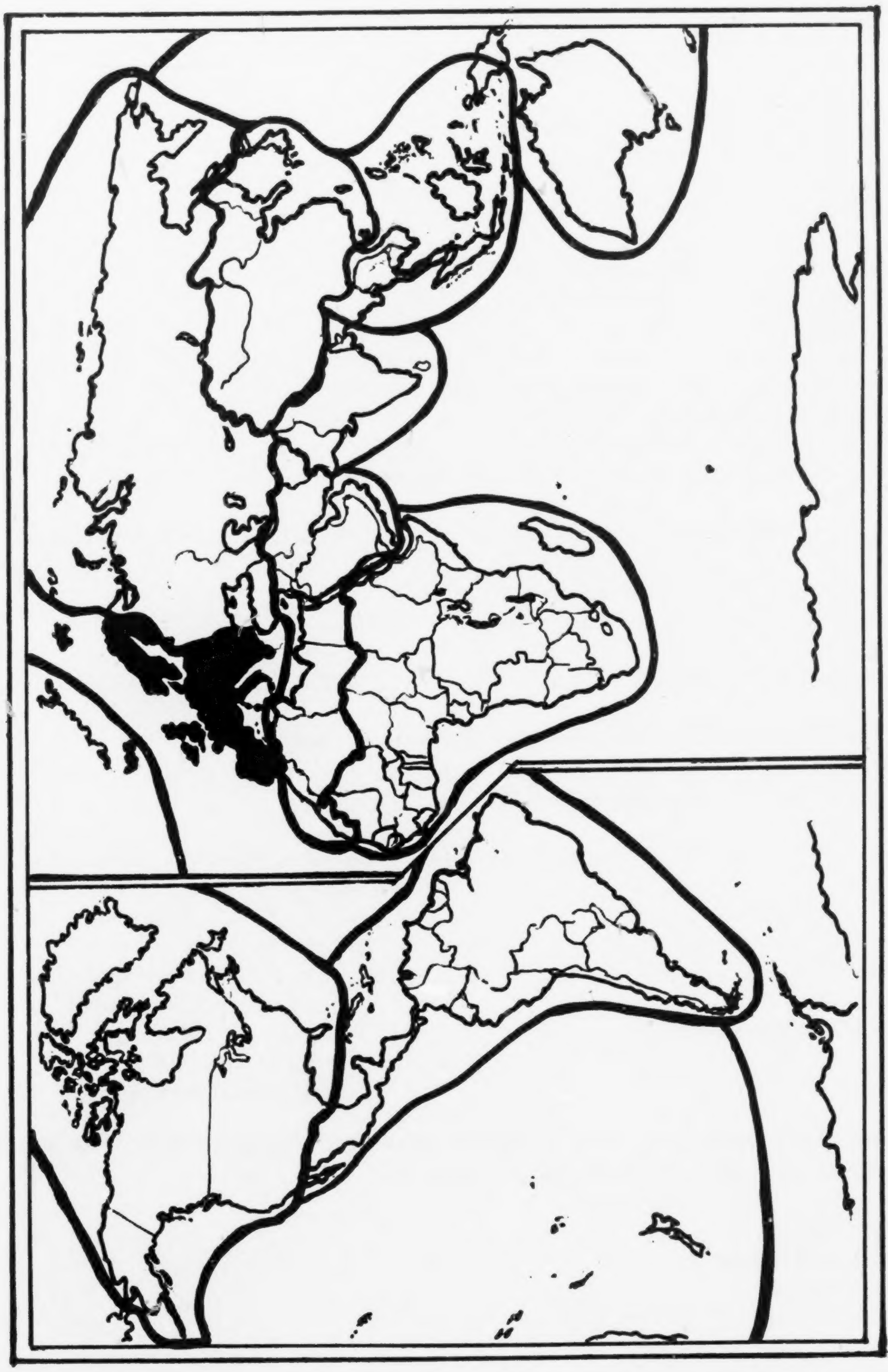
University of Illinois, Visual Aid Service, University Extension Division, Champaign. Films; sound; rental.

"African Fauna"
"African Tribes"
"Africans All"
"Ethiopia: Ancient Kingdom"
"Life in an Oasis"
"Life in Hot Wet Lands"
"Life of a Primitive People"
"Pygmies of Africa"
"Riches of the Veld"
"Republic of South Africa"

Society for Visual Education, Inc., 1345 Diversey Parkway, Chicago 60614. Filmstrips (about 40 frames each); time each about 15 minutes; purchase.

289-1 The Nile Valley
289-2 The Eastern Highlands
289-3 Southern Africa
289-4 The Congo Basin
289-5 The West Central lowlands
289-6 Northwest Africa and the Sahara

UNIT XII EUROPE



UNIT XII

EUROPE

Suggested Time: Two weeks

RATIONALE

Europe no longer exerts the political control over other regions that it did in the past; but its economic and cultural influence remain as major factors in world affairs. American students should be made aware of the fact that Europe not only was the cultural homeland of western civilization, but also of the present-day interrelatedness and interdependence which still exists between Europe and Anglo-America.

CONCEPTS

I. **IMPORTANCE OF EUROPE IN THE MODERN WORLD.** For several centuries Europe has played a central role in world affairs, and the activities of Europeans have revolutionized the world's geography. Today Europe no longer dominates the world, but it continues to be a highly important and influential region.

II. **INTRODUCTORY MAP CONCEPT.** Europe, a large peninsula located at the western end of the huge continent of Eurasia, is fringed by many important seas, peninsulas, and islands.

III. **A SMALL BUT DENSELY POPULATED REGION, COMPRISED OF COUNTRIES WHOSE ACHIEVEMENTS ARE DISPROPORTIONATELY GREATER THAN THEIR SIZE.** Europe is relatively small in area, but much of it is densely populated and its total population is very large. Its population, however, is divided among many different countries, none of which ranks in area or population with the largest countries of the world. The economic, political, social, and cultural achievements of the European countries show that the importance of a country or region cannot be measured purely by its size.

IV. **EUROPE'S RESOURCES FOR POPULATION SUPPORT.** To support such large masses of people (many of them at a relatively high level of living) on such a limited land area, it is apparent that Europe must have some valuable resources. Foremost among these are the talents and skills of the people. Resources provided by nature are not very impressive compared to those of the United States, but they do include an abundance of a few key resources. Among these are certain industrial resources that were critically important when modern industry was beginning; and climates and soils that permit a large output of farm products.

V. **CLIMATE AND AGRICULTURE IN EUROPE.** In most parts of Europe climatic conditions permit a wide variety of crops to be grown. Most of Europe's agriculture is carried on in lowlands within the marine west coast climate, the humid continental climate, or the mediterranean climate. These climatic regions differ from each other in moisture and temperature conditions and in agricultural organization and emphasis.

VI. **EFFECTS OF THE NORTH ATLANTIC OCEAN IN CREATING FAVORABLE CLIMATIC CONDITIONS FOR AGRICULTURE.** Europe's large agricultural production is rather surprising, in view of the northerly location. It is made possible by moisture and winter warmth from the North Atlantic Ocean.

VII. **THE MAJOR HIGHLANDS AND THE NORTH EUROPEAN PLAIN.** Europe's highlands stand out prominently on a precipitation map. The highlands lie to the south and north of one of the world's most important lowlands, the North European Plain.

VIII. **THE MAJOR RIVERS AND PORTS.** Europe's main rivers rise in highlands. Some rivers and their tributaries are important sources of hydroelectricity. Many rivers are navigable for long distances and are inter-connected by canals, thus providing a network for barge transportation of bulky, low-unit-cost commodities. Along these waterways are many industrial districts, as well as seaports from which shipping routes extend to all parts of the world and carry Europe's vital trade with overseas areas.

IX. **THE MAJOR INDUSTRIAL DISTRICTS.** In terms of value, trade within Europe, as well as export trade with overseas countries, is dominated by manufactured goods. The bulk of Europe's manufactures are produced in a limited number of major industrial districts.

X. **THE NEW ECONOMIC COMMUNITIES.** No European country has within its own borders all of the natural resources and markets it needs to achieve prosperity. The need for cooperation and closer alignment in economic (as well as political) matters has led to the formation of new economic "Communities" in Western Europe. These organizations have helped the member countries achieve a rising prosperity. However, each individual country retains its distinctive character and outlook, and at present there seems no prospect of a political federation ("United States of Europe"). On the Communist side of the Iron Curtain, the Council for Mutual Economic Assistance (COMECON) promotes economic collaboration among the Communist states of Europe and the Soviet Union.

XI. **SUMMARY AND FORECAST.** Europe, America's cultural homeland, has great internal variety and a complex web of internal and external political and economic relationships. Like people elsewhere in the world, the Europeans are prisoners of their own history, but they are making great efforts to shake off the worst features of their past and are moving forward along paths which may bring increasing prosperity and enable them to continue to occupy a highly respected and influential place in the world community.

Concept I

IMPORTANCE OF EUROPE IN THE MODERN WORLD. For several centuries Europe has played a central role in world affairs, and the activities of Europeans have revolutionized the world's geography. Today Europe no longer dominates the world, but it continues to be a highly important and influential region.

UNIT XII EUROPE

Content

In world affairs some areas play a much more central role than others. The political and economic organization of the world focuses on such areas. Today three areas—the United States, the the Soviet Union, and Europe—stand out above the others in this regard.

Question:

For what reasons do the United States, the Soviet Union, and Europe play such an important role in the world? (Stress their economic and military strength, their natural resources, their technological leadership, their ability to give aid of various kinds to developing nations, their political leadership of important groups of countries, their importance in world trade.)

Prior to the world wars of the twentieth century and the rise of the United States and the Soviet Union as super-powers, Europe was clearly the dominant region in the world. In the Age of European Expansion from the fifteenth century to the twentieth, the countries and people of Europe had an extraordinary impact on the rest of the world. Their activities revolutionized the geography of large sections of the globe.

Question:

What are some specific ways in which the activities of Europeans have had a great effect on the geography of the world? Try to draw out from the class the following points:

At one time or another, most areas outside of Europe have been controlled politically by European countries. Most of the international boundaries that appear today on the world political map were established by Europeans. The system of sovereign national states that now extends over the globe originated in Europe. European ideas about government and politics greatly influence the political life of most countries. (what are some specific examples?).

Europeans have migrated in large numbers to overseas areas and have carried with them the languages and cultures of their homelands. Today most people in the Americas, Australia, and New Zealand, as well as minorities in South Africa and various other countries, speak European languages. Even in newly independent Asian and African countries where there are few people of European descent, educated persons are generally conversant with the language of the European colonial power that was formerly in control. This is a great asset to developing countries like India or Zambia in which many languages are used. In these countries European languages afford a common means of communication for educated persons from all sections of the country. Many newly independent countries employ European languages as official languages. It may be noted that the widespread use of these languages greatly simplifies the work of the United Nations and other international organizations.

The Industrial Revolution which began in Europe has transformed large sections of the globe, and is still spreading. Europeans organized, and in large measure still operate, the world-wide system of transportation, communication, and trade. Even the world's commercial agriculture has been developed mainly by Europeans or their descendants.

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Pei, Mario. "The Hidden Politics of Words," **Saturday Review.** (January 15, 1966) pp. 22-44 (deals with the importance of European languages in the emerging nations).

Wheeler, Jesse H., *et al.* "The Importance of Europe," **Regional Geography of the World,** Revised Edition. New York: Holt, Rinehart and Winston, 1961. p. 32. (third edition expected 1969)

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Question:

How was Europe able to gain such dominance over other parts of the world during the Age of European Expansion? (Technical superiority in ships and guns; a receptive attitude toward scientific progress and readiness to employ scientific advances in practical ways, leading to a continuous build-up of economic and military strength that could not be matched by overseas areas. See J.H. Parry, **The Age of Reconnaissance** (Cleveland, Ohio: World Publishing Company, 1963, "Introduction," pp. 1-16).

World Wars I and II were major disasters for Europe. After World War II most overseas possessions of European colonial powers gained independence, and this process is still continuing. Meanwhile two super-states of continental size and power, the United States and the Soviet Union, emerged as world leaders. Today Europe's relative importance in the world is much less than it was at the beginning of the century. But it is still a major focus of the world's economic, cultural, and political life, though it cannot hope to reassert the dominance it once had.

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Concept II

Europe, a large peninsula located at the western end of the huge continent of Eurasia and separated from Africa by the Mediterranean Sea, is fringed by many important seas, peninsulas, and islands.

UNIT XII EUROPE

Content

Europe is one of several large peninsulas around the margins of the huge continent of Eurasia. It is bordered by the Atlantic Ocean on the west and the Arctic Ocean on the north; to the south the Mediterranean Sea separates it from the continent of Africa. Around the edges of Europe are many seas, peninsulas, and islands that have played a prominent role in the world's history.

The Mediterranean Sea is the largest of several arms of the Atlantic Ocean that penetrate deeply into Europe and carry maritime influences far inland. In Greek and Roman times, the earliest civilizations of Europe developed on Mediterranean peninsulas and islands. The Mediterranean became a bond of union for empires held together by sea power. Later on, this sea became a frontier between contending Moslem and Christian civilizations. In the nineteenth century it again became a focus for European sea empires holding colonial territories in Africa and Asia. Since the opening of the Suez Canal in 1869, the Mediterranean has been an important link in a major route of sea traffic connecting the lands of the Atlantic world with the lands around the Indian Ocean.

The eastern Mediterranean is connected with the Black Sea by the Turkish Straits (Dardanelles, Sea of Marmara, Bosporus). The famous city of Istanbul (formerly Constantinople, and before that, Byzantium) is located at the southern end of Bosporus. Aside from Turkey, which is closely aligned with the non-Communist nations of the Atlantic world, the Black Sea is bordered by Communist countries: the Soviet Union, Romania, and Bulgaria.

Three important peninsulas—the Balkan Peninsula, Italian Peninsula, and Iberian Peninsula—extend southward from the European mainland into the Mediterranean.

The Balkan Peninsula is bordered by the Black Sea, Turkish Straits, and Aegean Sea on the east, and by the Adriatic Sea and Ionian Sea on the west. Most of the peninsula is occupied by Communist countries: Romania, Bulgaria, Hungary, Yugoslavia, and Albania. At the southern end of the peninsula is Greece, a non-Communist country aligned with the Atlantic bloc. Greece, the earliest home of European civilization, includes not only mainland territory, but practically all of the islands in the Aegean and Ionian seas, and the large island of Crete as well. In the extreme eastern Mediterranean, the new independent island country of Cyprus, formerly a British colony, has a dual society comprised partly of Greek elements and partly of Turkish elements.

In the central part of the Mediterranean, the Italian Peninsula, with its continuation in the island of Sicily, extends like a causeway from mainland Europe toward Africa. The greatest of all the empires in the ancient world arose when the city of Rome, located on the western side of the peninsula, extended its control over all the lands around the Mediterranean as well as other lands reaching northward to Great Britain and the general line of the Rhine and Danube rivers. Today the peninsula is occupied by the Republic of Italy, the largest country in population and, except for France, the most important industrial country that borders the Mediterranean. Italy includes the two large islands of Sicily and Sardinia. The island of Corsica, north of Sardinia, has an Italian speaking population, but is politically a part of France. The Balearic Islands, farther west, are a part of Spain. The small island country of Malta, south of Sicily, was formerly a British colony, but is now independent.

At the west the Mediterranean is bounded by the Iberian Peninsula, shared by Spain and Portugal. Between the peninsula and Africa is the Strait of Gibraltar, which connects the Mediterranean Sea with the North Atlantic Ocean, the busiest ocean of world commerce. On the Gibraltar Strait is the British colony of Gibraltar, one of several strongpoints secured by the British in earlier times to guard their "lifeline of empire" through the Mediterranean Sea, Suez Canal, Red Sea, and Indian Ocean. Now that most of the British Empire has gained independence, Britain is lessening its military commitments in overseas areas, though it still retains some base facilities at a few points such as Gibraltar, Malta, and Cyprus.

Between the North Atlantic Ocean and the mainland of northwestern Europe, lie Great Britain, Ireland, and numerous smaller islands in the British Isles. These islands rise from the **continental shelf**—the area of relatively shallow water where the ocean has overflowed a bit onto the margins of the land. At the outer edge of the continental shelf is the **continental slope,** where the sea bottom slopes gradually to great depths in the true ocean basin. The continental shelves of the world are very important economically. Most of the major sea fisheries of the world are found on these shelves. Very important fisheries are found on the European continental shelf, particularly in the North Sea between the island of Great Britain and the European mainland. Fishing vessels from all nations that border the North Sea, particularly Norway and Great Britain, fish for codfish (which feed on the sea bottom and are caught by trawling, which would be impracticable if the water were excessively deep) and herring, which feed near the surface at night and are caught by vertical nets anchored to ships or floats; in the daytime herring retire to deeper waters and can be caught by trawling. Many other species of fish are caught in the North Sea. Europeans eat far greater quantities of fish per capita than Americans do.

The abundance of fish in the North Sea reflects an extraordinary abundance of **plankton.** The **plant plankton** (phytoplankton)—the "grass of the sea"—the microscopic plants that contain chlorophyll and can carry on photosynthesis. They can combine carbon dioxide and water in the presence of sunlight and produce simple sugars and starches; they can then turn these carbohydrates into fats and oils, and with the addition of nitrogen and other essential nutrients, they can produce proteins. Like other plants, the plant plankton must be nourished by phosphorus, nitrogen, potassium, and other nutrients.

These materials accumulate on the sea bottom from the remains of dead marine life and excreta of living organisms, and great quantities are brought from the land to the sea by rivers that empty into the North Sea. Winds and currents in the North Sea churn up nutrients from the bottom, mix them thoroughly with the water, and thus make them available to the plant plankton. The plant plankton are fed on by the **animal plankton** or zooplankton, fish feed on the animal plankton, and larger fish feed on smaller fish as well as on plankton. Thus there is a "chain of life" in the sea which begins with the plant plankton; the commercial sea fisheries of the world are found where plant plankton are abundant.

The continental shelves of the world are increasingly important as a souce of minerals, particularly petroleum and natural gas. Huge reserves of natural gas have been discovered in the northern part of the Netherlands, and this has led to intensive prospecting on the continental shelf underneath the North Sea. A number of natural gas strikes have been made.

The seas that lie between the island of Great Britain and the European mainland have long been known as the "Narrow Seas." This term is customarily applied to the English Channel and the Strait of Dover, and sometimes is broadened to include the much wider North Sea. Since the Norman Conquest of 1066 there has been no successful invasion of Britain across these seas. Today proposals are under discussion to construct a tunnel—the "Channel Tunnel" —across the shallow, 21-mile-wide Strait of Dover. This will be a railway tunnel, but automobiles will be transported through it on flatcars.

The North Sea is separated from the Baltic Sea by the Scandinavian Peninsula occupied by Norway and Sweden, and by the Jutland peninsula and islands of Denmark. The largest of the Danish islands is Sjaelland (Zealand), on which the important city of Copenhagen is located. Copenhagen is on a narrow strait, The Sound, which separates Denmark from Sweden and is the main channel used by ships moving between the Baltic and North seas. Some ships avoid the sea journey around Denmark by using West Germany's Kiel Canal across the base of the Jutland peninsula.

The Baltic Sea, with its large gulfs—Gulf of Bathnia, Gulf of Finland, and Gulf of Riga—touches Sweden, Finland, West Germany, East Germany, Poland, and the Soviet Union. The Baltic Sea, being almost completely enclosed, and supplied with great amounts of fresh water by numerous rivers, is less saline than the North Sea and freezes more easily in the winter.

(In teaching the Introductory Map Concept, the teacher should make liberal use of wall maps (including a blackboard outline map of Europe); transparencies for overhead projection; and atlas, desk, and outline maps. A map pre-test might be useful. The teacher should be sure that the place locations specified above had been mastered before proceeding to Concept III)

Concept III

A SMALL BUT DENSELY POPULATED REGION, COMPRISED OF COUNTRIES WHOSE ACHIEVEMENTS ARE DISPROPORTIONATELY GREATER THAN THEIR SIZE. Europe is relatively small in area, but much of it is densely populated and its total population is very large. Its population, however, is divided among many different countries, none of which ranks in area or population with the largest countries of the world. The economic, political, social, and cultural achievements of the European countries show that the importance of a country or a region cannot be measured purely by its size.

Content

On an equal-area map of the world, Europe is not very conspicuous. We often speak of Europe as a continent, but it is really just one of several large peninsulas around the margins of the enormous continent of Eurasia. (Point out on world map.)

How large Europe is depends on how it is defined.

If we adopt the traditional view that Europe extends eastward to the Ural Mountains and Caucasus Mountains in the Soviet Union, it includes about 3.8 million square miles and thus is a shade larger than the United States or a shade smaller than Canada. But if European Russia is excluded, Europe shrinks to only 1.9 million square miles—a little more than half the size of the United States. Of this, nearly half a million square miles lies behind the Iron Curtain in Communist Europe, and the remainder is in Western Europe. (Show on Europe map.)

Exlcuding the Soviet Union, the land area of Europe is divided among 33 countries, of which 7 (Andorra, Gibraltar, Liechtenstein, Malta, Monaco, San Marino, and the Vatican State) are very tiny. This leaves 26 countries sharing an area half the size of the United States. Thus it is apparent that, in general, the European countries are equivalent in area to American states. The largest country, France, is quite a bit smaller than Texas, and is only a little more than one-third the size of Alaska. Only 12 European countries are larger than 50,000 square miles, whereas 30 American states are larger than this. For practically any European country except the micro-countries, an American state of equivalent area can be found.

Map Exercise

Materials:

a. Mimeographed tables showing area in square miles and population of the individual countries of Europe (excluding the "micro-states") and the fifty states of the Union. Data may be found in **Goode's World Atlas** or the **Britannica Book of the Year.**

Outline map of the United States showing state boundaries.

Instructions:

From the tables of data, find an American state or combination of adjoining states that corresponds as closely as possible to the United Kingdom in area. Draw a heavy line around the state or states, and label the area thus enclosed as UNITED KINGDOM. Repeat the process for each of the other European countries. Do not use any state more than once.

Label the map EUROPEAN COUNTRIES COMPARED IN AREA TO AMERICAN STATES.

But of course we do not measure the size of a region or country merely by its area. A more useful measure is total population. Here Europe fares much better compared to the rest of the world. Excluding European Russia, Europe has about 450 million people (1967), well over twice as many as the United States. This means that the average **density of population** (persons per square mile) in most European countries is much greater than in states of corresponding area in the United States. The four most populous European countries—West Germany, the United Kingdom, Italy, and France—have 50 to 60 million people each, as compared with about 20 million for the most populous American state, California. California is larger in area than any of the four countries except France, and its population density of about 120 persons per square mile is far less than that of any of the four (France 235; Italy 455; United Kingdom 580; West Germany 620). Only a few of the smaller Northeastern states compare in density with the most densely populated European countries. The most densely populated state, New Jersey, has about the same number of people per square mile as the most densely populated European country, the Netherlands (890). Some European countries, like Sweden, Finland, or Norway, have very moderate densities, but even these countries have more people per square mile than many American states.

UNIT XII EUROPE

Question:

Are the people in Europe evenly distributed? (Have students look at a map of population distribution in Europe, such as the map in **Goode's World Atlas.**) Describe the general pattern of population distribution. What are some factors that might account for the areas of unusually heavy density? What factors might account for the areas of unusually light density?

Map Exercise

Materials:

Table of data showing population of each country of Europe. Data may be secured from **Goode's World Atlas** or **the Britannica Book of the Year.** Outline map of Europe showing country boundaries only.
Colored pencils or crayons.

Instructions:

Enter on the map in capital letters the name of each European country. West Germany and East Germany should be shown as separate countries. Show each of the following political units with a large dot: Andorra, Monaco, San Marino, Vatican State, Liechtenstein, Gibraltar, Malta.
Color each country according to its population, using the following scheme:

Over 40 million — purple
25 to 40 million — red
10 to 25 million — orange
Under 10 million — yellow.

Make a legend to show the meaning of the colors. Using capital letters, entitle the map COUNTRIES OF EUROPE CLASSIFIED BY TOTAL POPULATION.

In summary, we emphasize the fact that Europe's countries are not large when measured on a world scale, but their achievements clearly demonstrate the fact that the importance of an area cannot be judged purely by its size.

Concept IV

EUROPE'S RESOURCES FOR POPULATION SUPPORT. To support such large masses of people (many of them at a relatively high level of living) on such a limited land area, it is apparent that Europe must have some valuable resources. Foremost among these are the talents and skills of the people. Resources provided by nature are not very impressive compared to those of the United States, but they do include an abundance of a few key resources. Among these are certain industrial resources that were critically important when modern industry was beginning; and climates and soils that permit a large output of farm products.

Content

In order to support so many people on such a limited land area, it is apparent that Europe must be equipped with valuable resources. Foremost among these are the talents and skills of the Europeans themselves. Europeans are more highly educated than most of the world's people, and they are very skilled in all the different forms of economic activity. Their skills have gradually developed over many centuries as Europeans have explored and reexplored their region, have organized it for effective use of its physical resources, and have developed strong connections with other parts of the world.

Question:

> Why is it necessary for the people of an area to reexplore it from time to time? (In order to find out what new possibilities it may hold as circumstances and technologies change.)

The resources nature has provided in Europe are not, in sum total, as valuable as those of the United States. But they do include an abundance of several industrial resources (notably coal, iron, timber, and water) that were critically important when modern industrial development was beginning, and still play a prominent role today. In addition, Europe has climates and soils that permit a very large output of farm products. Most European countries provide the bulk of their food requirements from domestic production, though this is supplemented in many countries by sizable food imports.

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Concept V

CLIMATE AND AGRICULTURE IN EUROPE. In most parts of Europe climatic conditions permit a wide variety of crops to be grown. Most of Europe's agriculture is carried on in lowlands within the marine west coast climate, the humid continental climate, or the mediterranean climate. These climatic regions differ from each other in moisture and temperature conditions and in agricultural organization and emphasis.

Content

In most parts of Europe, the frost-free season is sufficiently long, summer temperatures are sufficiently high, winter temperatures are sufficiently mild, and available moisture is great enough for a wide variety of crops to be grown.

UNIT XII EUROPE

Europe has no areas classified as desert, whereas other continents have sizable areas of this type. A larger proportion of Europe is usable for agriculture than is true of North or South America, Africa, Asia, or Australia.

Even in Europe there are some physical and climatic areas that contribute relatively little to the food supply. Some highlands are too rugged or too cool and wet for much agriculture. In the northern parts of Scandinavia a **tundra** or **subarctic** climate prevails (point out on map), with very limited agricultural possibilities. It should be noted, however, that the highlands and the subarctic areas often support valuable forests, primarily conifers. Such areas provide a large share of Europe's timber supplies. Finland, Sweden, Norway, and Austria are especially notable as exporters of timber products to other European nations.

Most of Europe's agriculture is carried on in lowlands within three major climatic regions: the region of marine west coast climate, the region of humid continental climate, and the region of mediterranean climate.

> A broad strip of country bordering the Atlantic from northwestern Spain to Norway comprises the region of **marine west coast climate.** This region includes northwestern Spain, most of France, the British Isles, the Benelux countries, most of Germany, all of Denmark, the southwestern coast of Norway, and extreme southern Sweden. In the marine west coast climate, moisture is generally adequate at all seasons, the frost-free season is relatively long, and the severity of the winters is greatly tempered by proximity to the ocean. Crops that are emphasized include small grains; hay and grass; root crops like potatoes, sugar beets, and fodder beets; vegetables; deciduous fruits; and small fruits. In most areas crops are grown primarily to feed livestock, and farm income is secured mainly from the sale of dairy products and live animals, particularly cattle. Farming is intensive and scientific, and some of the world's highest crop yields are achieved. Dependable markets for farm products are available in scores of great cities and industrial districts in this climate zone. In most parts of the marine west coast climate region, the summers are not warm enough for corn to ripen properly (though in southwestern France and northwestern Spain it is an important crop), and citrus fruits, cotton and rice are absent.

Much of Communist Europe lies in the region of **humid continental climate.** In this climate the summers are somewhat warmer and the winters are colder than in the marine west coast climate; the annual precipitation is generally somewhat less, and there is more of a tendency to a summer maximum of precipitation. Livestock raising is important, but there is greater reliance on crops grown for direct human consumption than in the marine west coast region.

Rye and potatoes are major crops in most of Poland (and in East Germany as well), but in the southern part of Poland and East Germany wheat becomes important, and still farther south, in the Danubian Plains of Hungary, Romania, and northern Yugoslavia, corn becomes the most important crop with wheat a strong second. Much of the agriculture in Communist Europe has been collectivized, this being least true of Poland and Yugoslavia. While agriculture in Communist Europe has made considerable strides since World War II, and is quite advanced in some areas, the general level of productivity is substantially lower than in the Low Countries, Denmark, Great Britain, France, and West Germany.

Around the margins of the Mediterranean Sea, the very distinctive **mediterranean** or **dry-summer subtropical climate** is found. This is a climate with mild, rainy winters and hot, almost rainless summers. Agriculture depends on grains and vegetables grown with the aid of winter rains, on drought-resistant trees and vines (for example, olives, figs, and grapes), or on crops grown by irrigation. Irrigated districts are the most productive. Europe's citrus fruit supply and a considerable share of its vegetables are produced in such districts. Livestock raising is less important in the mediterranean climate than in the marine west coast or humid continental climates. Sheep and goats, which can survive on sparser forage, take precedence over cattle in most areas. In Europe, mediterranean climatic and agricultural conditions, with many local modifications, characterize most parts of the Iberian Peninsula, southeastern France, central and southern Italy, the coast of Yugoslavia, and Albania, and Greece.

Map Exercise

Materials:

Table of climatic data for Europe. See the table in Wheeler, Kostbade, and Thoman, **Regional Geography of the World,** 1961 edition, page 46.
World map of climatic regions, such as the one in **Goode's World Atlas** or Wheeler, Kostbade, and Thoman, **Regional Geography of the World.**
Outline map of Europe showing country boundaries and small circles or dots for cities.

Instructions:

Using heavy lines, draw the approximate boundaries of the climatic regions in Europe. With capital letters, label each region with the name of its type of climate.

Show each of the following cities by a large dot. Print the name of each city, using capital and small letters: Dublin, Glasgow, London, Paris, Copenhagen, Bergen, Berlin, Warsaw, Belgrade, Marseilles, Rome, Athens, Haparanda (Sweden), Vardo (Norway).

Beside each city, show the average January temperature, the average precipitation, and the percentage of the annual precipitation that occurs in the summer half year (April through September).

With capital letters entitle the map: EUROPE—CLIMATIC REGIONS AND REPRESENTATIVE STATIONS.

Question: What are some major generalizations we can make about Europe with regard to average January and July temperature, average annual precipitation, and the percentage of the annual precipitation that falls in the summer half year?

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Concept VI

EFFECTS OF THE NORTH ATLANTIC OCEAN IN CREATING FAVORABLE CLIMATIC CONDITIONS FOR AGRICULTURE. Europe's large agricultural production is rather surprising, in view of the northerly location. It is made possible by moisture and winter warmth from the North Atlantic Ocean.

Content

Total agricultural production in Europe is very large. The existence of such a productive agriculture is rather surprising in view of the northerly location of Europe on the globe. Large sections of Europe lie north of conterminous United States. But the winter climate is greatly moderated by influences from the Atlantic Ocean.

In the winter, there is a movement of relatively warm water from tropical parts of the Atlantic Ocean toward Europe. This movement is called the **North Atlantic Drift.** The water is warm enough to inhibit the formation of ice in harbors as far north as northern Norway. This permits the great shipments of Swedish iron ore through the Norwegian port of Narvik to continue throughout the winter. This ore traffic is extremely important to the iron and steel industries of the United Kingdom, West Germany, Belgium, and a number of other European countries.

Actually, a tongue of warm water laps around the north of Norway and enables the Arctic port of Murmansk in the Soviet Union to stay open all winter. In World War II this port was a prominent "back door" through which supplies from America and Britain reached Russia after the German invasion had cut off other ports in western Russia.

The North Atlantic Drift is propelled, at least in part, by winds known as the **westerlies** (or "prevailing westerlies" or "stormy westerlies.") As air moves eastward over the relatively warm ocean, it acquires heat, and this warmth is carried to the land. Consquently, Europe is warmer in winter than is normal for areas in such high latitudes. The effects of the oceanic air persist for great distances eastward, so that cities in western Russia are often quite a bit warmer than interior cities in comparable latitudes in North America.

Map Exercise

Materials:

Table of climatic data for selected Northern Hemisphere stations (see table below).
Hemisphere stations (see table below).
Outline map of the world, showing parallels of latitude as horizontal lines.
World atlas.

Instructions:

Using heavy lines, draw the following parallels of latitude: 52° N., 60°N., 66½°N.
Show by a dot and name the location of each place shown in the table of climatic data below.
Beside each place, enter the average January temperature in blue and the average July temperature in red.
With capital letters label the NORTH ATLANTIC OCEAN and NORTH PACIFIC OCEAN.
Entitle the map: PROXIMITY TO THE SEA AND TEMPERATURE VARIATION, EURASIA AND NORTH AMERICA.

Table of Climatic Data

Place	Average January Temperature (° F.)	Average July Temperature (°F.)
Bergen, Norway	35	58
Berlin, Germany	30	64
Birmingham, England	39	61
Fort Good Hope, Canada	-21	60
Helsinki, Finland	22	64
Irkutsk, U.S.S.R.	-6	60
Kiev, U.S.S.R.	21	65
Leningrad, U.S.S.R.	17	64

Narvik, Norway	28	53
Ocean Falls, Canada (B.C.)	37	58
Orenburg, U.S.S.R.	5	72
Reykjavik, Iceland	33	53
Saskatoon, Saskatchewan	-1	65
Sitka, Alaska	33	55
Fort Vermilion, Alberta	-9	62
Verkhoyansk, U.S.S.R.	-58	56
Warsaw, Poland	25	65
Yakutsk, U.S.S.R.	-28	66

Question: What are some general climatic relationships that are brought out in this map exercise?

The westerly winds perform another important service for Europe: they bring most of the region's precipitation. Rainfall or snowfall is generated in eastward-moving, low-pressure cells called **cyclonic storms** or **cyclones.** Air is drawn into a cyclone from all directions, and thus air masses of different properties are brought into contact along **fronts.** Masses of relatively warm, light, humid, unstable air are lifted over masses of colder, drier, denser, more stable air. As the warm air is lifted, it cools, some of its water vapor condenses, clouds form, and rain or snow falls. When this happens, **latent heat of condensation** is liberated and warms the atmosphere. Thus the warming effects of the ocean on the winter climate are due partly to direct transfer of heat to the land by moving air and partly to the liberation of heat when condensation takes place. Precipitation generated in a cyclone is called **cyclonic** or **frontal precipitation.** In European highlands it is augmented by orographic ("mountain generated") precipitation, produced when moving air strikes a highland barrier and is forced upward.

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Concept VII

THE MAJOR HIGHLANDS AND THE NORTH EUROPEAN PLAIN. Europe's highlands stand out prominently on a precipitation map. The highlands lie to the south and north of one of the world's most important lowlands, the North European Plain.

Content

On a precipitation map of Europe, the highlands stand out prominently as areas of unusually heavy precipitation. Three major sets of highlands can be distinguished.

The most extensive, highest, and most rugged highlands are in the south. The best-known ranges are the Alps, Carpathians, Pyrenees, and Apennines. These mountains, and various others in southern Europe, are part of a world-wide system of young **Alpine Highlands** which includes the Atlas Mountains, Himalayas, Rockies, Andes, and many other ranges.

Immediately north of the Alpine mountains of Europe lies a discontinuous series of lower, older, and smoother highlands often called the **"Hercynian" Highlands.** Some of these highlands are low mountains, some are hill lands, and extensive sections are plateau remnants deeply trenched by river valleys. Individual highlands include the Massif Central, Ardennes, Vosges, Black Forest, Rhine Highlands, and many others. Some of the Hercynian Highlands, such as the Rhodope Mountains of Bulgaria and Yugoslavia, lie within the Alpine system, but most of the Hercynian Highlands lie outside the Alpine mountains.

The **Northwestern Highlands** of Scandinavia and the British Isles are formed primarily of very ancient rocks which were scoured heavily by ice sheets that formed here and then moved outward. The most rugged areas are found in Norway, which has some fairly high mountains and is deeply trenched by the famous fiords. In the British Isles some highlands are classed with the Northwestern Highlands, and others with the Hercynian Highlands.

Between the Hercynian Highlands on the European mainland and the Northwestern Highlands lies a great plain, underlain by sedimentary rocks. Extending without a break from the Pyrenees Mountains to the Urals, it is often called the **North European Plain.** Most of it lies on the main European peninsula, but outliers extend into England and southern Scandinavia. The surface of the plain is flat in places, undulating elsewhere, and contains many areas of low hills. Most of it is level enough to be cultivated, and it is the principal agricultural area in Europe. However, there are substantial differences in soil fertility from place to place. Large sections of the plain in Poland, Denmark, Germany, and the eastern Netherlands were covered by the Pleistocene ice sheets, which left in many places a residue of sandy materials that have given rise to very infertile soils. At the extreme south of the plain, however, a band of **loess** extending from France to Russia has given rise to very productive soils.

(Make liberal use of wall maps, textbook maps, atlas maps, or sketch maps in presenting the above material.)

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Concept VIII

THE MAJOR RIVERS AND PORTS. Europe's main rivers rise in highlands. Some rivers and their tributaries are important sources of hydroelectricity. Many rivers are navigable for long distances and are interconnected by canals, thus providing a network for barge transportation of bulky, low-unit-cost commodities. Along these waterways are many industrial districts, as well as seaports from which shipping routes extend to all parts of the world and carry Europe's vital trade with overseas areas.

Content

Europe's highlands, particularly the high mountains, are a considerable barrier to transportation. But natural avenues are provided by the valleys of rivers that rise in the highlands and empty into the many seas that border the continent. Some of these rivers, especially those that rise in the Alps, Pyrenees, and Scandinavian mountains, are very important for the generation of hydroelectric power. Hundreds of generating stations in the Alps make France and Italy Europe's largest producers of hydroelectricity. Many rivers are navigable for long distances and such rivers often are interconnected by canals. Barges using the network of rivers and canals provide economical transportation for bulky low-unit-cost items like ore, coal, gravel, or stone. Often the lower courses of rivers are deep estuaries on which important seaports are located. Many of Europe's main industrial districts are served by navigable waterways.

The Alps are the principal source region for several of Europe's most important rivers.

> From the Alps the **Po River** flows eastward to the Adriatic Sea. It crosses a broad, level plain which constitutes the industrial and agricultural core of present-day Italy. On the plain are the large industrial cities of Milan and Turin. Immediately south of these cities, and separated from them by a relatively low section of the Apennines, is Italy's principal seaport, Genoa. As compared with the Mediterranean world generally, the plain of the Po has unusually fine resources for agriculture. It is a broad expanse of level land with good soils, abundant water supplies from the surrounding mountains for irrigation, and a considerable amount of rainfall in the summer months. The range of crops is much greater than in most areas around the Mediterranean, and livestock raising, emphasizing cattle, is very important.
>
> The **Rhone River** rises at the foot of a glacier in the heart of the Swiss Alps, and flows westward to the important French city of Lyon. Here the river turns south and empties into the Mediterranean Sea just west of France's main Mediterranean port, Marseilles. The valley of the Rhone and its tributary the Saône provides an important transportation corridor connecting the Paris Basin with the Mediterranean coast. To the east of the valley are the Alps and Jura Mountains, and to the west is the Massif Central. The Gap of Belfort between the Vosges and Jura Mountains connects the Rhone-Saône Valley with the valley of the Rhine.
>
> The **Danube River** rises in the Black Forest of Germany, but most of the water that the river carries comes via tributaries from the Alps. The Danube flows eastward, touching eight countries—more than any other river in the world. It empties into the Black Sea. In its middle and lower course, the river flows through broad plains which represent the most productive farm lands of Hungary, Yugoslavia, and Romania. On the Danube are three large and important capital cities—Vienna, Budapest, and Belgrade. From Belgrade a north-south trough occupied by the Morava and Vardar rivers connects the Danube Valley with the Mediterranean coast. For many centuries this trough has been an important avenue of movement through rugged mountain country in Yugoslavia. At its Southern end is the Greek seaport of Salonika From Vienna, the Moravian Corridor between the Carpathian Mountains and the highlands of Bohemia provides a convenient passageway connecting the Danube Valley with the plains of Poland.

The **Rhine River** is by far the most important stream that rises in the Alps. It originates at the foot of a glacier in the Swiss Alps not far from the source of the Rhone. From Basel, Switzerland, to the North Sea the Rhine is navigable by barges (though in Alsace navigation has been improved by a canal paralleling the river), and the river is a great highway used by many countries. In addition to the barges on the river itself, the Rhine Valley and tributary valleys are followed by busy railways and highways. Several important industrial cities or districts lie on the Rhine or its tributaries. The Neckar River connects the Rhine with Stuttgart, and the Main River connects the Rhine with Frankfurt. The Moselle, now converted into a chain of lakes by numerous dams, supplies a connection between the Rhine and important iron mines and iron and steel plants in France's province of Lorraine. In its lower course the Rhine connects the industrial Ruhr district of West Germany with the Dutch seaport of Rotterdam.

Rotterdam, the most important seaport in continental Europe, is located on one of the distributaries (alternate channels) in the Rhine Delta. However, ships entering the port from the North Sea use a broad, deep ship canal, the New Waterway.

Rotterdam is one member of a family of great seaports that lie around the margins of the North Sea, English Channel, and Irish Sea. Almost all of these ports are located on estuaries. Besides Rotterdam, the largest ports are London on the Thames, Antwerp on the Scheldt, and Hamburg on the Elbe. Other prominent ports on estuaries are Liverpool on the Mersey, Bremen on the Weser, and Le Havre on the Seine. The port of Amsterdam is an exception to the general pattern of location. It once was connected with the North Sea by the broad, shallow Zuider Zee, but to permit modern ships to enter the harbor, the North Sea Canal was built in the 1870's. Today the Zuider Zee has been walled off from the North Sea by an 18-mile-long dike in order to reclaim land for agriculture by diking and draining.

From these seaports, important shipping routes extend to all parts of the world. The route that carries the heaviest traffic runs from the English Channel to eastern North America and is called the North Atlantic Route. The second most important route connects the English Channel with the Indian Ocean, eastern Africa, southern and eastern Asia, and Oceania. This route, the "Mediterranean-Asiatic Route," passes through the Strait of Gibraltar, Mediterranean Sea, Suez Canal, and Red Sea. Along this route, Britains's old "lifeline of empire," are many present or former British strongpoints such as Gibraltar, Aden, Singapore, and Hong Kong. The largest tonnages carried by ships using the route consist of petroleum and products from the oil fields of southwestern Asia and north Africa. (Note: The Suez Canal has not been in use since the summer of 1967 (written in mid-1968).)

The shipping routes named above, and many others, are enormously important to European countries, many of which have a very large overseas trade. Imports consist largely of foods, raw materials, fuels, and semi-finished manufactures; among the major items are petroleum, wheat and flour, cotton, wool, sugar, meat, dairy products, edible oils and fats, fruit, and timber. Exports from Europe consist largely of manufactured goods. A great many overseas countries are very dependent on Europe as a market for their surplus products and as a supplier of an almost infinite variety of manufactures.

(Make liberal use of maps in presenting the above material).

UNIT XII EUROPE

Map Exercise

Materials:

Outline map of Europe showing rivers and country boundaries; World atlas.

Instructions:

Emphasize the following rivers with heavy blue lines: Po, Rhone, Danube, Rhine, Thames, Scheldt, Elbe, Mersey, Weser, Seine.

Show each of the following seaports by dot and name: Genoa, Marseilles, Rotterdam, London, Antwerp, Hamburg, Liverpool, Bremen, Le Havre, and Amsterdam.

Entitle the map, **MAJOR RIVERS AND SEAPORTS OF EUROPE.**

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Concept IX

THE MAJOR INDUSTRIAL DISTRICTS. In terms of value, trade within Europe, as well as export trade with overseas countries, is dominated by manufactured goods, the bulk of Europe's manufactures are produced in a limited number of major industrial districts.

Content

The bulk of the manufactured goods that Europe exports are produced in a limited number of major industrial districts.

Some districts consist of single cities like London or Paris, carrying on a great diversity of manufacturing enterprises. Such cities may have a greater value of industrial production than most countries of the world. They are favored by the fact that transportation nets converge there (often by deliberate design of the government); services needed by manufacturers (legal, financial, communications, shipping, consultative, etc.) are at a maximum; there is an immense local market able to absorb vast quantities of manufactured products. The metropolitan area and immediate surrounding region of London, for example, contains around 12 million people, many of whom are well-to-do, and thus the total purchasing power is greater than that of a substantial majority of the world's countries. It may be noted that cities like London or Paris perform valuable services not only for their home countries but for many other parts of the world. London, for example, is the center of a world-wide net of banking, insurance, shipping, and communication services centering in the ancient City of London—Europe's Wall Street.

Other manufacturing is done in districts comprising many cities, which may be closely clustered or more widely spaced. Most famous of these districts are the old coal-field industrial districts. The Industrial Revolution began here and spread throughout the world. The coal fields that provide fuel for these districts are found on the North European Plain around the edges of hilly lands and low mountains that border the Plain. In England a series of coal-field districts form a ring around the southern Pennines. Best known of these districts are Lancashire, where the Industrial Revolution was born with the rise of mechanized cotton textile milling, and Birmingham and the Black Country, birthplace of the modern iron and steel industry. On the mainland of Europe a line of coal-field industrial districts stretches from northern France to southern Russia. The most important coal fields of France, the Low Countries, Germany, Poland, and European Russia are in this line. The best known field is the Ruhr field in West Germany. Its prime resource is coal suitable for making coke. The Ruhr supplies coal and coke to many European countries, but much of it is used in the industries of the Ruhr itself.

The Ruhr is a classic example of a fully-developed heavy industrial district, with blast furnaces, rolling mills, coke works, chemical plants that use waste materials from the iron and coke industries, and thermal power stations that burn coal to produce electricity which is transmitted to other places, often hundreds of miles away. The old coal-field industrial districts have encountered great difficulties in the twentieth century. They are crowded and congested, with much outdated equipment and inadequate housing for workers, and many of their lines of production are increasingly threatened by competition from elsewhere. Thus the coal-field districts are witnessing an increasing amount of redevelopment, with greater diversification of industry, emphasizing industries that will maximize labor and managerial skills that have developed here over a long period. We may note that Europe's coal is subject to increases in competition from petroleum, natural gas, hydroelectricity, and atomic energy, as well as competition from coal imported from the United States. There is a strong tendency for the newer iron and steel plants in Europe to be located in coastal situations rather than in the old coal-field districts.

Still other industrial districts utilize hydroelectricity and highly skilled labor to produce a great variety of consumer goods, often highly finished and expensive. Examples of such districts are the Swiss Plateau, the Po Basin of northern Italy, the Lyons district in France, and the Central Lowland of Sweden.

(The teacher should devise appropriate work with cutline maps in teaching Concept 9.)

UNIT XII EUROPE

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(Also consult geographies by Pounds, Gottmann, and Jones and Darkenwald which were previously cited.)

Concept X

THE NEW ECONOMIC COMMUNITIES. No European country has within its own borders all of the natural resources and markets it needs to achieve prosperity. The need for cooperation and closer alignment in economic (as well as political) matters has led to the formation of new economic "communities" in Western Europe. These organizations have helped the member countries achieve a rising prosperity. Each individual country, however, retains its distinctive character and outlook, and at present, there seems no prospect of a political federation (United State of Europe). On the Communist side of the Iron Curtain, the Council for Mutual Economic Assistance (COMECON) promotes economic collaboration among the Communist states of Europe and the Soviet Union.

Content

No European country has within its own borders all of the natural resources and markets it needs to achieve prosperity.

The need for cooperation and closer alignment in economic (as well as political) matters has led to the formation of a series of new economic "Communities" in Western Europe; these include the European Coal and Steel Community (Schuman Plan), the European Atomic Energy Community, and the European Economic Community ("Common Market"), formed by "The

Six" (France, West Germany, Italy, Belgium, Netherlands, Luxembourg) and the European Free Trade Association ("Outer Seven": United Kingdom, Denmark, Norway, Sweden, Switzerland, Austria, Portugal).

Great progress has been made in economic integration; but each country retains its distinctive national character and outlook, and at present there seems no prospect of any kind of political federation ("United States of Europe"). However, the non-Communist nations of Europe send delegates to the Council of Europe, a useful forum for the discussion of common problems.

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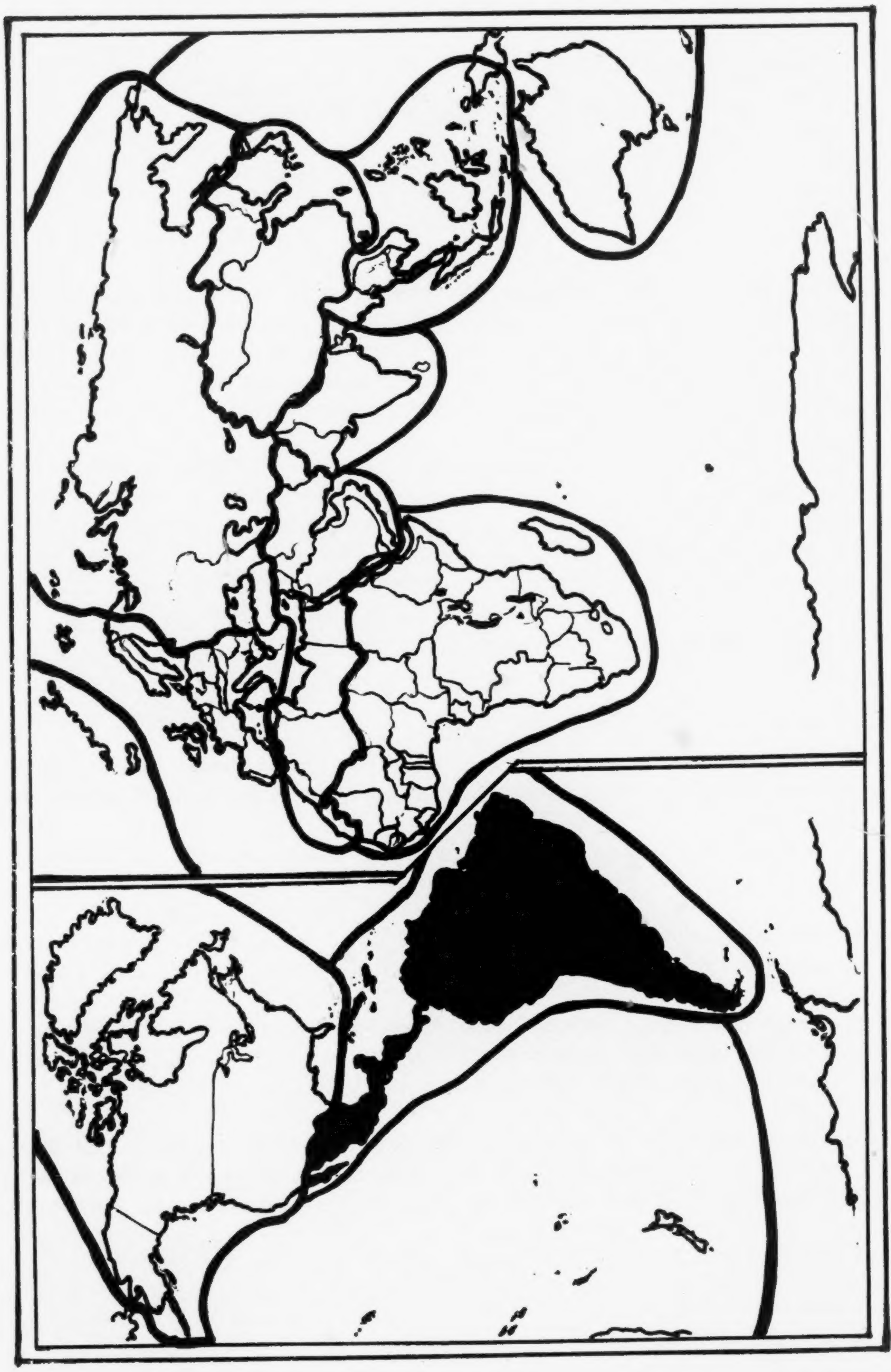
Concept XI

SUMMARY AND FORECAST. Europe, America's cultural homeland, has great internal variety and a complex web of internal and external political and economic relationships. Like people elsewhere in the world, the Europeans are prisoners of their own history, but they are making great efforts to shake off the worst features of their past and are moving forward along paths which may bring increasing prosperity and enable them to continue to occupy a highly respected and influential place in the world community.

UNIT XIII LATIN AMERICA



UNIT XIII

LATIN AMERICA

Suggested Time: Two Weeks

RATIONALE

Latin America is a large cultural region—so named because its culture derives in large measure from Latin Europe—that consists of South America, Mexico, Central America, and the West Indies. Although no single culture exists, there are many features of Latin American cultures that are common and discernible in most parts so that the region stands in contrast to that of Anglo-America, which has its primary cultural roots in northwestern continental Europe.

The population of Latin America is increasing at a faster rate than in any of the other world regions, and this great population increase is compounding the economic, social, and political, problems; inasmuch as large areas are still considerably underdeveloped. In attempting to achieve a more satisfactory status, Latin America's economy is rapidly expanding and there are excellent prospects for sustained and accelerated growth that could provide for this rapid population growth and increase the standard of living. The future of Latin America and Latin American countries is dependent upon the way these problems are met and solved.

CONCEPTS

I. Latin America is a large cultural region possessing vast areas which are sparsely populated, but the population is increasing at a faster rate than in any other world region.

II. A significant number of the countries of Latin America have an economy that revolves around one or a very few raw materials or food commodities.

III. Although Latin America possesses factors of powerhood, many Latin American countries have an underdeveloped economy because of physical, social, and political handicaps.

IV. In general and per capita terms, Latin America is the only world region that is underdeveloped where economic expansion is now rapid and where there are excellent prospects for sustained and accelerated growth.

V. The cultural composition of Latin America is much more complex and diversified than is implied by the name Latin America. The population of Latin America is racially mixed, and this diversity of racial makeup is one of the characterizing features of the region.

Concept I

Latin America is a large cultural region possessing vast areas which are sparsely populated, but the population is increasing at a faster rate than in any other world region.

UNIT XIII LATIN AMERICA

Content

Latin America has a total land area of about 8.6 million square miles (approximately 1/6 the earth's land area), a latitudinal extent of about 85° and a longitudinal extent of about 82°.

The UN estimated mid-1966 population at 253 million, giving a density of about 30 to a square mile.

The 3% annual rate of population increase will double the population in twenty-four years.

Learning Activities

What are the **north** to **south** extent and the maximum **east** to **west** extent in miles. **Compare these findings** with the other regions studied. Evaluate these findings. (What conclusions can be drawn?)

Invert a map of Latin America and superimpose it on a map of Anglo-America, lining up the parallels and meridians. What comparisons can be drawn as to extent, position, climatic types, areas of concentrated population and relative empty areas?

In 1850, the population of Latin America and the United States were about the same. Use a graph to plot the population of these two areas from 1850 to 1900, for each decade, through 1960; then for 1965 and the projected population for 1970 and 2000. Compute the rate of annual increase for each period. Write a summary of your findings.

Study maps which show distribution of population, temperature, rainfall, climate, and physical features. Determine the role of the natural environment in the distribution of population.

Study maps which show the extent of the ancient Indian empires and the location of their capitals, those which show the Spanish viceroyalties and their capitals, and those which show national boundaries and capitals. Show whether the cultural environment has contributed to the present distribution of populations. What role did the fazendeiros (large estate holders) play in establishing the population pattern of Brazil?

Study a recent reliable source of statistics. List the ten major cities of Latin America and the ten major cities of Anglo-America. Plot these cities on a map of the Western Hemisphere, and show the distance between these cities. Determine the best modes and routes of travel between these cities. Does Latin America have a counterpart to New York, Chicago, St. Louis, New Orleans, Denver, or San Francisco? Does Latin America have any problems with respect to intrastate trade? Trade within the region? International trade?

The political divisions of Latin America vary in size from Brazil, which is larger than conterminous United States, to the Panama Canal Zone, 50 square miles in area, which is under U. S. control. After selecting Latin American states to represent each size group, find comparable states of the United States for each size group, then write the name of the Latin American State within the boundary of the other state. Compare the economic and political significance of these pairs of states.

Concept II

A significant number of the countries of Latin America have an economy that revolved around one or a very few raw materials or food commodities.

Content

Latin America produces a small number of key minerals, including petroleum, bauxite, copper, tin, nitrate, sulfur, silver, and iron ore, which are of major significance in world trade.

Possessing large areas of tropical latitude, Latin America produces a variety of tropical agricultural products which have become important in world trade; especially to industrialized nations lacking large areas of tropical climate. These products include coffee, sugar, cocoa, bananas, meat, wool, and forest products.

In at least a dozen republics a single product comprises in excess of 50% of its export products; therefore, their economic well-being is closely related to world prices.

Latin America's role has been essentially that of a supplier of minerals and foods to more developed countries, thus representing a kind of economic colonialism.

Current trade patterns still tend to be with outside areas, particularly with the United States, rather than between individual Latin American countries.

Learning Activities

Use an Oxford Economic Atlas and Van Royen's Atlas of World's Agricultural Resources, select those Latin American countries for which a single product comprises at least 50% of their exports. Then, check to see how important these countries are as world producers. (Using two colors these could be plotted on the same graph for good comparison and evaluation.)

Prepare a flow chart to show to which countries these commodities are exported and what commodities are received by return trade. In evaluating this flow chart, attention might include such factors as: differences in climate types, degree of industrialization, and former and present colonial ties.

Some Latin American countries have lost their high position as a producer of certain commodities, such as Bolivia and tin, Brazil and raw rubber, and Venezuela's position as a petroleum producer. Select certain countries in which this has occurred and determine the cause (s) for these changes.

Concept III

Although Latin America possesses factors of powerhood, many Latin American countries have an underdeveloped economy because of physical, social, and political handicaps.

Content

Positive physical factors include a large area (size), a variety of climates, soils, vegetations, and minerals, and an availability of water in most parts of the region. An evaluation of these assets, however, reveals:

About 90% of the land is not suitable for farming because of mountains, tropical rainforest, and desert, leaving only 10% that is suitable for farming.

Counterbalancing the relative abundance of water is the fact that most soils in the tropical parts of the region are not very fertile by nature and require careful handling and considerable capital investment to be made productive. The commonly assumed "fertility of tropical soils" is largely a myth.

The Pampa and Gran Chaco, with an area about 1/3 the size of the United States, is the agricultural heart of Latin America, yet over 50% of the total population is engaged in subsistence agriculture.

Agricultural yield per acre is low because of antiquated farming methods and an emphasis on a one-crop agricultural system.

Many mineral resources are present, but the region was poor in mineral fuels until the age of petroleum, and even the petroleum is confined to a handful of countries. Latin America, a coal-poor region of the world, does not have a single country with a well-developed major industrial area based on a local source of coal. Up to the present, all of the world's major industrial countries have based their initial industrial development on domestic coal resources, but this industrial asset has not been present in Latin America.

Social and political handicaps are less easy to recognize but perhaps have played, and will continue to play, a more significant role in underdeveloped countries than have the physical handicaps.

In the stratified society of most Latin American countries, land has been more or less equivalent to wealth (a concept foreign to most high school students in the United States), and political power has been concentrated in the hands of small groups of wealthy landowners who have used their position to advance their own interests, with scant regard for the welfare of the poverty-stricken masses. The nineteenth century political revolutions basically were directed by big landowners to achieve political power and independence, and not to redress unsatisfactory social and economic conditions. In country after country of Latin America, the prime political question today is that of land reform. In general, this is more true of Latin America than of other world regions. Landowning interests continue to be politically powerful in most Latin American countries, but an emerging middle class is playing an increasing role.

Political instability—the inability of one government to transfer its power in an orderly manner to a successor—has discouraged foreign and domestic investment, has hindered the development of international cooperation, and in general has made it very difficult to carry on a continuous program of economic and social development. Governments striving to develop their countries generally have been overthrown in a short period of time, because of resistance to change on the part of entrenched landowning interests.

Inadequate educational levels have been one result of the unsatisfactory political situation, and have been an important factor contributing to the retarded condition of the region.

Widespread poverty in Latin America results in part from economic dependence on an agricultural economy, the absence of a middle class in the social structure, and almost no educational opportunities for the masses.

The underdeveloped condition of most Latin American countries is manifested by a general lack of the commercial, industrial, and transportation facilities (intrastructure) needed by a modern nation. Especially conspicuous is the fragmentary nature of the transportation system.

Most countries of Latin America have been politically independent for a century and a half, but today these countries are still struggling to escape from economic colonialism. In the twentieth century, Latin America has lain primarily within the sphere of influence of the United States, just as Africa has lain within the sphere of influence of Europe. The interest and concern of the United States has focused mainly on Mexico and the Caribbean, along with considerable interest in Brazil, Chile, and Argentina. Latin American countries do not trade very much with each other, but each country tends to have its seperate trading relationships with North American or European countries.

Latin America's population is increasing at a faster rate than that of any other world region. This greatly increases the difficulty of economic development. A pronounced feature of population growth is the extraordinary increase in urban populations. There are over 50 Latin American cities with a population of over 100,000.

With rapidly increasing populations, the Latin American countries are striving to make better use of their natural resources in order to improve the living conditions of their people.

The citizens are demanding and working for political, social and economic reform.

Latin American countries are just beginning major industrial expansion.

The growth of manufacturing can utilize resources and provide more balanced economy.

The Alliance for Progress was formed in 1961 to help the countries of Latin America increase production, diversify exports, strengthen agriculture, stabilize commodity prices, equalize taxes, and improve housing, health, and education.

The Latin American Free Trade Association (LAFTA) has been formed along the lines of the Common Market in Europe.

Learning Activities

Evaluate and rank the larger countries of Latin America with respect to possession of the factors of powerhood. Note their major deficiencies. Given time and assistance, can each country overcome these deficiencies? Explain.

Major economic activities of the Pampa and Gran Chaco are the same as those carried on in comparable regions of the United States. Does this prevent a greater degree of trade between Latin America and the United States? Explain.

What part has the United States played in developing the countries of Latin America? Does the United States still have vested interests in Latin America? Explain.

Study maps which show the various transport systems that have been developed in Latin America. Find plans for enlarging and modernizing these systems. When these plans are developed, should they tend to promote greater trade within and among these nations or more trade with nations of other regions? Explain.

Locate Latin American cities which in respect to latitude and altitude resemble your town. Compare and contrast the towns.

Study Mexico's land reform program. Could this program be adapted to the needs of any other Latin American country? Defend your answer.

Debate one of the following propositions:

Resolved: All Latin American countries should follow Puerto Rico's example of "Operation Bootstrap."

Resolved: All Latin American countries should have compulsory education for all to the age of sixteen.

Resolved: The Latin America Free Trade Association can become as important to Latin America as the Common Market is to Europe.

Concept IV

In general and per capita terms, Latin America is the only world region that is underdeveloped where economic expansion is now rapid and where there are excellent prospects for sustained and accelerated growth.

Content

The greatest comparative advantages for economic growth are in agriculture. Agriculture will continue to be the dominant occupation and the primary source of domestic income, foreign exchange, and capital surpluses for investment in economic growth; yet, primitive techniques often make for inefficient land use and low yields per unit of land and per capita. It is estimated that agricultural production could be tripled with the aid of the government in planning, assistance, and investment.

The prospects for industrial development are less certain and less impressive but the resource base is present for a substantial industrial growth.

Although some Latin American countries have sacrificed agricultural development for industrial expansion—such as Argentina, Uruguay, and Venezuela—most governments are now seriously endeavoring to provide for a more equable distribution of land, modernize the transport facilities, and promote industrialization and a greater degree of self-sufficiency.

It seems likely that if economic prosperity is to be achieved and the standard of living raised, a balance must be aimed at between a purely raw materials economy and industrialization.

Learning Activities

Study and discuss how Latin American countries can increase their agricultural production. Compile a list of suggestions. List the countries or regions where these suggestions might be practiced unless the suggestion is a general one. The list might include the following:

More efficient and intensive use of existing cultivated lands such as the Pampa;

Extending cultivation on a profitable basis in areas now idle such as Sudan and savanna-like regions;

Development of better pasture grasses suited for commercial ranching;

Extension of irrigation, generally a neglected technique in Latin America;

Adequate transport networks and marketing facilities;

Place greater stress upon the production of farm products and raw materials for export.

If the methods of agriculture practiced by the Japanese were practiced in parts of Latin America, how greatly could the economic situation be changed with respect to agriculture? How could these methods be initiated? How would the yield compare?

In many cases, Latin American production faces high transport costs both national and international. What factors contribute to these high costs? (This answer should include physical barriers of the interior, the generally periphereal or coastal pattern of settlement which widens the distance between trade-generating centers, and the cost of Panama Canal dues.)

What types of action could the national governments take to boost economic expansion? Could these actions be taken without concurrent governmental control? Explain and discuss.

Foreign capital has largely built the commercial sectors of Latin American economy. What have been the results of this? **NOTE:** Perhaps psychological effects should be included.

Certain Latin American countries are making increasing attempts to diversify commercial production and export. Is it always reasonable or profitable to do this at the expense of the one or two highly profitable specialties on which the export trade now depends? Defend your answer. Cite examples with statistics.

COMPARISON OF WORLD REGIONS: Many comparisons can be drawn between Latin America and Southeast Asia as far as economic development is concerned. Make a list of these comparisons and be able to discuss them. (The list might include the ideas of: foreign investment, dependence on a few commodities, and industrial development superimposed upon a subsistence agricultural economic base.)

EVALUATION: What stage of economic development is present in Latin American countries today? Will a fuller exploitation provide for the fast rate of population increase? NOTE: Two or three countries could be used for case studies.

Concept V

The cultural composition of Latin America is much more complex and diversified than is implied by the term Latin America. The population is very racially mixed, and this diversity of racial make-up is one of the characterizing features of the region.

Content

Viewed in a world perspective, the culture of Latin America exhibits an unusual amalgam of very important and persistent indigenous elements, side by side with large European and African elements, and in some places noticeable Oriental elements. This particular kind of cultural pattern is not shared by other world regions colonized by Europeans.

There are three main elements—Indian, Negro, and white or European (including people born in America of European ancestry). Each of these elements includes a wide variety of kinds of people (e.g., mestizo, mulatto, zambo) and racial mixture has been widely carried on for over four centuries so that over half the people are of mixed stock.

There is no single Latin American culture. Just as its citizens are a blend of many races and peoples, so are the cultures blends of many heritages.

Despite a common colonial experience and the overall prevalence of a common cultural heritage, each country has its own distinct character and personality.

The degree of cultural unity within Latin America as a whole is surprising, considering the great range of regional differences in other respects and the enormous area involved, so that many features of a common Latin American culture are discernible in most parts. The civilization as a whole stands in recognizable contrast to that of Anglo-America which has primary roots in northwestern continental Europe.

Learning Activities

A very interesting and important factor of the Latin American population is not the number of Indians or Europeans or Negroes or Orientals but the amount of racial intermixture which has occurred, making Latin America a vast melting pot of people and creating a Latin American culture. Two different approaches could be used to help the students form a greater appreciation of the contributions of the various ethnic and cultural groups and see how they have been blended or enmeshed.

One approach: Students might list the major ethnic and cultural groups and their contributions, then see the results of their blending. The list might include the following:

Native Indians — effective use of land, crops such as maize and the Irish potato, minerals, architecture, calendars, political order, native clothing, art.

Spanish colonizers — took over Indian political order and used it for their own political subdivisions, plantation agriculture, language, religion, art and architecture, educational system.

African — words that have entered the modern Latin American language, intonations and rhythms of pronunciation, music, dance.

Second approach: Students might list the "generalizations" they have from previous reading, movies, etc. about the people and cultures of Latin America; then, on the basis of further reading, they can list the exceptions to check the validity of these generalizations. Their work might include the following:

Generalization: The countries of Latin America share a common cultural heritage.

Exception: Many people of Latin America have a heritage that is non-Latin.

Examples: Indigenous Indian elements in highland countries of Andes; African Negro elements: Jamaica; East Indian elements: Guyana.

Generalization: The countries of Latin America shared a common colonial experience.

Exception: Many countries were and some still are colonial possessions of countries other than the Iberian countries (Spain and Portugal); the major colonizing countries.

Examples: French—Haiti and French Guiana; British—Jamaica, British Honduras; the Netherlands—Aruba and Surinam; the United States—Virgin Islands and Puerto Rico.

The students might read some articles by leading anthropologists to see if their consensus of opinion is that a hybrid Latin American might evolve after several more centuries of mixture.

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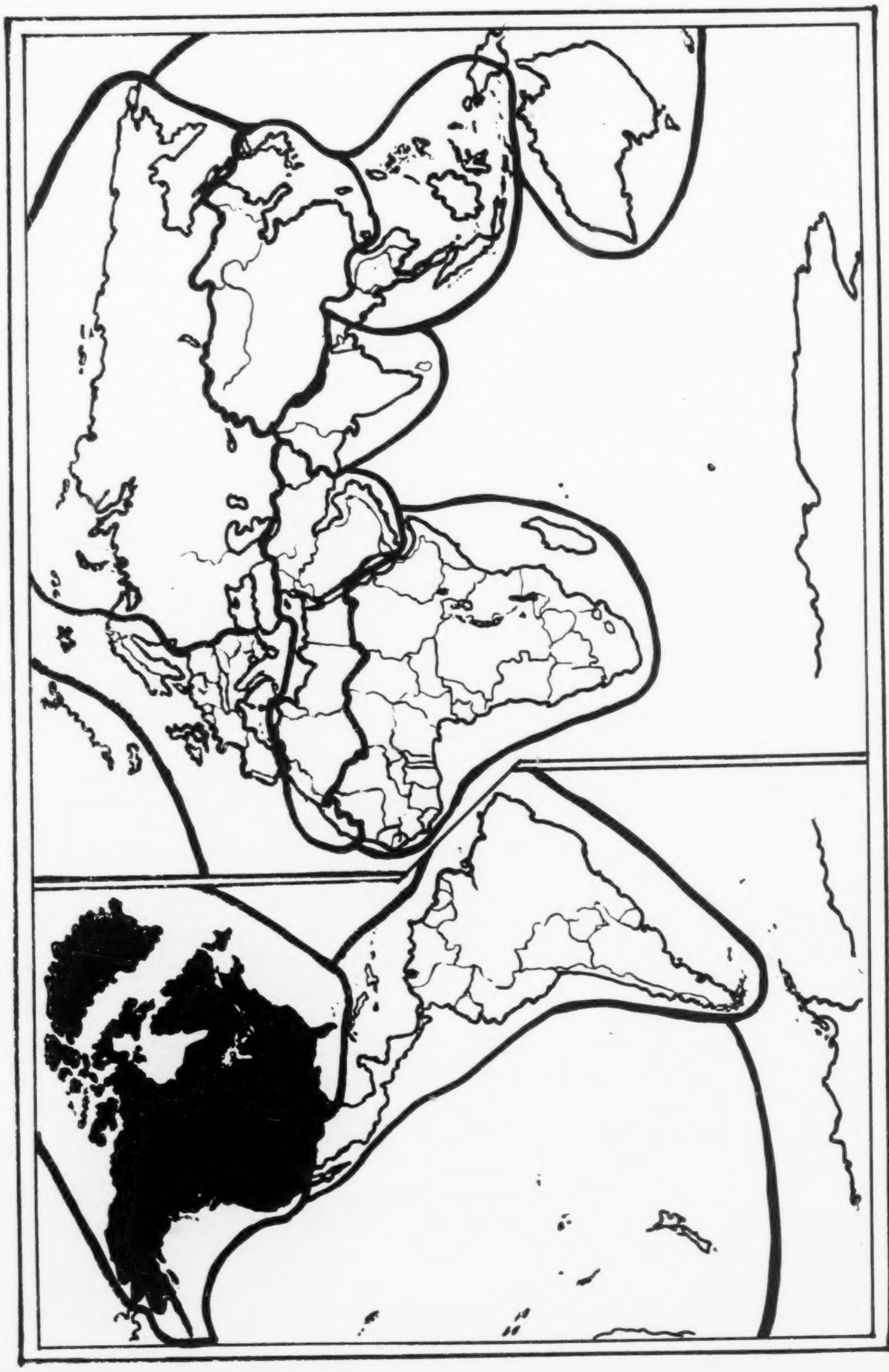
UNIT XIV ANGLO-AMERICA



UNIT XIV

ANGLO-AMERICA

Suggested Time: Two Weeks

RATIONALE

The United States and Canada comprise the region called Anglo America. These two nations are very closely tied together economically in what is termed a symbiotic relationship. This area is one of the most highly developed industrial areas of the world with the United States being one of the two super powers in the world.

CONCEPTS

I. The United States is the major world power both politically and economically, enjoying the highest standard of living in the world. This is due in part to a very favorable endowment of resources, both in quantity and quality.

II. The United States is an enormous producer of food, having the only significant food surplus, despite the fact that there is a decreasing number of farmers.

III. The United States has an industrial and an agricultural core which do not geographically coincide, but overlap.

IV. The United States possesses scattered areas of specialized economic activity, tied to the core areas by excellent systems of transportation and communication.

V. The United States possess areas of heavy, continuing urbanization, resulting in drastic changes of urban patterns.

VI. Canada is the world's second largest country in area, but has a rather small population which is concentrated in areas directly associated with the agricultural and industrial cores of the United States.

VII. Even though much of Canada is sparsely populated, these areas are important as sources of raw materials for the manufacturing industries of Anglo-America.

Concept I

The United States is the major world power both politically and economically, enjoying the highest standard of living in the world. This is due in part to a very favorable endowment of resources, both in quantity and quality.

Content

The United States is one of the giant countries and political powers of the world, with exceptional latitudinal range, and with the bulk of its area within the favored middle latitude.

UNIT XIV ANGLO-AMERICA

The United States has an area of approximately 3,675,000 square miles, (somewhat smaller than Canada.) Hawaii extends equatorward to about 19° north latitude; Point Barrow extends polarward to about 72° north latitude. The bulk of the United States is located between 30° north and 49° north latitude—a favored position within the middle latitudes.

The country possesses a representation of the four major topographic features—mountains, hills, plateaus, and plains.

Major mountain ranges:

- the Appalachians of eastern United States
- the Rocky Mountains of the West
- the Sierra Nevadas and Cascades of the West
- the Alaska Range and Brooks Range of the North
- Hawaiian peaks (Mauna Kea, Mauna Loa)

Plateau areas:

- the Piedmont
- the Intermountain Plateau

Hill country:

- New England Uplands
- Cumberland Hills
- Ozark
- Ouchita Uplands
- Nebraska Sand Hills
- Cowlitz Hills of Washington

Plains Areas

- the Atlantic and Gulf Coastal Plains
- the Central Interior Lowlands
- the Great Plains
- the Great Valley of California.

The major climatic types—the United States has all but the tropical rain forest and true polar.

Continental United States has the subtropical types (humid, mediterranean, and dry); and the cyclonic types (humid continental, dry continental, and temperate marine) some of which are favorable for exceptional land use.

Alaska has the temperate marine, polar continental, and polar marine.

The Hawaiian Islands have the modified rainy tropical and the modified dry tropical.

These combined factors have made for a great variety in human activity:

Where climate is favorable, most major world activities are carried on within the United States. Some areas favor excellent agriculture; others extensive grazing or ranching; while still other areas favor lumbering, mining, fishing, manufacturing, commerce, and tourism; most of which are of high quality and adequate quantity in extraction, production and income.

Because of the above geographic conditions, the Americans as a whole enjoy a high quality of food, clothing and shelter. Most American people have money for education, luxury items, and recreation.

Because of its economic wealth and power, the United States has become accepted as one of the world's great political powers. The United States has a position of leadership in the United Nations and other important international associations. The United States has lent money to many other states of the world for economic, educational, and social improvement. The United States is committed to defend weaker countries against the spread of oppression and wanton military aggression.

Learning Activities

Give examples of the ways in which the United States has aided other poeples of the world so that they may enjoy a better standard of living.

The United States has sometimes been called a "treasurehouse of natural resources." **Explain** the basis for this remark. **Speculate.**

How have the natural resources and American ingenuity combined to make America one of the world's greatest countries?

Location Study

In what latitudes do the following cities lie:

Oahu, Fairbanks, Miami, San Francisco, St. Louis, Boston, Duluth, Juneau, Las Vegas, Wichita, Dallas, Seattle, Butte, Louisville.

Show them on the maps listed below.

On an outline map of the United States, locate the following landforms:

Atlantic Coastal Plain, Gulf Coastal Plain, Piedmont, Appalachin Mountains, Ozark Uplands, Great Plains, Rocky Mountains, Intermountain Plateau, Sierra Nevadas and Cascades, the Brooks Range.

On an outline map of the United States show the location of the major climatic types. Include a legend, and use a color system to show the different climates. In what climatic types do each of the above cities lie?

Concept II

The United States is an enormous producer of food, having the only significant food surplus, despite the fact that there is a decreasing number of farmers.

Content

Because of large areas within the United States that are climatically favored (humid continental, humid subtropical, mediterranean subtropical, and temperate marine) the range of agricultural production and variety of food production is great.

Coupled with favorable climates are excellent areas of level to gently rolling terrain which favor the division of land into large fields which lend themselves to operation by mechanized agriculture.

Through application of latest methods of soil management, American farmers have greatly improved acreage production within the last several decades.

Since mechanized equipment has multiplied the amount of work that a farmer can do in a day, the farms are becoming larger and the number of farmers fewer. Hence, fewer American farmers are producing so much food that significant surpluses exist.

Because of adequate acreage for rangelands and feed-crop production, in addition to excellent knowledge of animal husbandry, the United States ranks high in world production of beef, pork, dairy products, poultry, and eggs. The United States is high in cereal production of corn, oats, and barley; of lesser importance, but adequate for American needs, are rice and rye. The United States ranks fourth among the nations of the world in the amount of fish caught, but fish consumption is low per capita in the United States due to the availability of other types of meat. Bumper crops have resulted in sizeable surpluses, especially in the production of wheat, and in other years, of potatoes and dairy products.

Learning Activities

Examine the maps in an economic atlas that deal with food production. What parts of the United States are most important in the production of wheat, apples, citrus fruits, hogs, beef cattle, and dairy cattle? Do these regions overlap? What is the average annual output? How does it compare with other leading producers?

Concept III

The United States has an industrial and an agricultural core which do not geographically coincide, but overlap.

Content

The industrial core roughly contains the northeast quadrant of the United States and adjacent Canada, and includes special areas of concentration.

The Boston-Narragansett Basin (shoes, precision goods)
Southern New England—Southern Mass., Connecticut, Rhode Island—(precision, high quality goods)
The Greater New York District (diversified manufacturing)
The Middle Atlantic Region (heavy steel, ships, etc.)
Central New York State, along the barge canal (diversified—each city with own specialty)
The Upper St. Lawrence District (diversified)
Pittsburgh, Wheeling, Youngstown Area (heavy steel)
Lower Great Lakes District (heavy steel, etc., flour, diversified)
The Upper Ohio Valley, Parkersburg to Cincinnati (heavy steel, etc.)
Duluth—Twin Cities District (diversified)
Greater St. Louis District (diversified)

The agricultural core of the United States lies west of the Appalachians, north of the Ohio and Missouri Rivers, and east of the high Great Plains and includes the following:

The Corn Belt
The Hay and Dairy Region
The Two Interior Grain Belts—hard winter wheat and spring wheat belts.

The industrial and agricultural belts coincide along the Great Lakes, the Ohio River, and the upper and middle Mississippi River—especially within the hay and dairy region and the northern part of the Corn Belt.

Learning Activities

Emphasize the industries of the cities of Chicago; Minneapolis; St. Louis; Columbus, Ohio; and Buffalo. Which of the industries indicate that these cities are located either at the fringe or within the agricultural core?

Consider the industries of Gary, Cleveland, Pittsburgh, Wheeling, and Parkersburg. Do these industries suggest an agricultural background or a mineral manufactured development geared to heavy industry? Explain.

Delineate on an outline map the country's manufacturing districts in black. Now in red, draw in the Corn Belt, the Hay and Dairy Region, and the interior Grain (wheat) Belts. Note how these regions overlap. What conclusions can you draw as to climatic and soil conditions necessary for high yield, and relationship of the industrial activities and the agriculture belts.

Concept IV

The United States possesses scattered areas of specialized economic activity, tied to the core areas by excellent systems of transportation and communication.

Content

Scattered areas of specialized economic activity which include agriculture, industry, and other activities occur in the following areas outside the industrial and agricultural cores.

The Southern Piedmont—with specialities in tobacco, cotton, and fruits and with expansion in types of light manufacturing—textiles, et al.

The Gulf Coast Region—shipbuilding, chemical manufacturing, and other types of tidewater activities developed since the second World War.

The Cotton Belt—which has diversified its agriculture and is rapidly expanding in various phases of manufacturing.

The Omaha, Kansas City, Wichita, Oklahoma City-Tulsa, and Dallas-Forth Worth Districts on the eastern margin of the Great Plains which are argicultural and industrial centers within their own regional locale.

The Butte—Anaconda—Great Falls Triangle—for copper production.

The Denver Area for localized manufacturing and government activities.

The Pacific Coastal Cities and their associated districts—Seattle, Portland, San Francisco—Oakland, and Los Angeles, each with its tidewater industrial activities.

These scattered areas of specialized economic activities are tied to the core areas by the following excellent systems of transportation and communication:

Trunk railroad lines—carrier of special goods.
An elaborate system of highways served by common carrier trucks.
Inter-coastal and intra-coastal waterways.
An elaborate system of interior waterways—the Great Lakes, St. Lawrence, the Ohio, and the Mississippi waterways.
Airlines now span the country in all directions, further shortening the time distance between major cities.
An excellent system of communications consisting of the telephone, telegraph, radio, and television all tend to unify our country.

Learning Activities

Study a railroad map of the United States. Where is the railroad network the most dense? Name several areas where the network is light. Account for the difference in density.

Compare the density of highway patterns among the following states: New York, Oregon, Louisiana, Utah. Can one correlate population density and highway density? Explain.

Concept V

The United States possesses areas of heavy, continuing urbanization, resulting in drastic changes of urban patterns.

Content

Early cities had their beginning along strategic lines of transportation—rivers or railroads. These became the downtown areas as the cities grew. Factories were located along these transportation lines. Houses for factory workers were built adjacent to the factories so that laborers could walk to work. Residences were built close together with the object of maximum units to each city block, and in time they began to deteriorate.

Growth of urban fringes took place with the increase of population. With the coming of the trolley, residences could be built farther from places of work. These residences were better constructed and usually housed people in a higher income bracket.

With continued outward expansion, the older or inner core began to decay. The oldest houses provided low-cost rental. In time, they became urban slums.

With the coming of the automobile, urbanization took place. Reliable automobiles and better roads enabled people to move still farther from work. Though time was lost in commuting, people preferred semi-rural living. With better methods of motor truck transportation, factories began to decentralize to conform to this new urban pattern, where single floor space and adequate parking space became possible.

Inner decay demanded urban renewal. Block after block of slum residences were razed and were replaced by apartment houses, parks, and playgrounds. The erection of stadiums and theaters, and the development of historical plazas resulted in the building of large motor motels and the passing of the city hotel.

Future cities locating near strategic transportation routes will take an elongated form along modern superhighways. In time, distant cities will merge. At present, near the New England and middle Atlantic seaboard, and near the Great Lakes, linear urban merging has already taken place giving the resultant "strip city" the name megalopolis.

Learning Activities

Read the article "Cities As Long As Highways—That's America of the Future," **U. S. News and World Report,** April 5, 1957. Study the accompaning map on page 29 of the same issue.

On an outline map of the United States, plot the present "megalopolis" area. What are the possible locations of a megalopolis in Missouri? Is it possible for a megalopolis to rise in Missouri? For part(s) of Missouri to become included in a megalopolis? Explain.

Concept VI

Canada is the world's second largest country in area, but has a rather small population concentrated in areas directly associated with the agricultural and industrial cores of the United States.

Content

These three regions contain about 80 percent of Canada's people:

> **Nova Scotia and New Brunswick** represent a geographic continuation of maritime New England, with dairying, small specialized farms, fishing and maritime trade.

The St. Lawrence Valley is similar to northern New England with quarrying, pulp and paper mill activities, and valley agriculture.

Southern Ontario's golden triangle is similar to the Ontario Plain of New York and the Upper Great Lakes Region of the United States with great diversification of manufacturing, largely by American branch factories located in Canada.

Southwestern Manitoba, southern Saskatchewan, and southeastern Alberta are a continuation of the Great Plains; and because of large wheat farms and ranches, they are sparsely settled, with a few cities serving as regional trade centers. The Canadian Rockies are an extension of our northern Rockies; and apart from seasonal tourist trade, they are little used except for extraction of precious metals. Maritime British Columbia resembles coastal Alaska and Washington with diversification of manufacturing and small areas of temperate marine agriculture. Around Vancouver there is a fairly heavy population concentration.

Learning Activities

Study a population map of Canada in correlation with highway and railroad maps of Canada. What conclusions can be drawn from such a comparison?

Concept VII

Even though much of Canada is sparsely populated, these areas are important as sources of raw materials for the manufacturing industries of Anglo-America.

Content

Central Canada is largely composed of the Canadian Shield, which is heavily glaciated, exposing large areas of crystalline rock. Its natural vegetation consists of Taiga in spotty occurrences and is often stunted or dwarfed because of shallow soil overlying the crystalline rock. The Shield's podzolic soils are sterile and acid, and because of the rigorous climate, are mostly non-productive.

Northern Canada contains Arctic Lowlands which slowly descend in elevation northward from the Canadian Shield to the Arctic Ocean. Arctic Lowland vegetation is that of the tundra-mosses and lichens predominating but with some dwarfed willows and aspens in south-facing sheltered slopes. The soils of the Lowlands are podzolic and are not productive. Because of this harsh, non-agricultural environment, the population is very light, and large areas contain less than 2 persons per square mile.

Scattered population is devoted to mining, fishing, and hunting or trapping of fur-bearing animals. Towns are usually small and serve a lightly settled trade area that is almost unknown to the townspeople themselves.

Despite the shortcomings stated above, there are certain areas within Canada's Shield that are important as sources of raw materials for the manufacturing industries of Anglo-America. Cities and towns of the Southeastern Shield that are important for the pulpwood and paper industry are found along major rivers or along the Queen's Highway (Canadian 17) in southern Ontario.

The real contribution of the Shield and Arctic Lowland, however, lies in the occurrences of mineral wealth. American and Canadian interests have combined to extract these minerals for industrial production in both countries.

Examples of these areas of mineral production are as follows:

Asbestos at Thetford in southeastern Quebec.
Iron ore at Schefferville and Allard Lake on the border of Quebec and Newfoundland, and at the Steep Rock Lake in Southern Ontario.
Copper at Val d'Or, Kirkland Lake and at Porcupine.
Nickel at Sudbury and Flin Flon.
Uranium at Uranium City, Yellowknife, Port Radium, Blind River, Bancroft.

Potential resources discovered, but not yet developed, are as follows:

Asbestos and nickel in northern Quebec.
Iron ore on Baffin Island.
Potash in south-central Saskatchewan (now being developed).
Uranium in northern Saskatchewan.
Molybdenum in central British Columbia.
Copper in central and northern British Columbia, and Yukon Territory.
Iron ore, asbestos, lead, and zinc in Yukon Territory.
Oil and gas from tar sands at the Mackenzie River Delta and on Banks Island.
Victoria Island, Melville Island, and Prince of Wales Islands (all the northern Canadian Archipelago).

Learning Activities

List the exports to Canada.

Canada is rich in minerals and the following towns are located at workable mineral deposits. **Plot on an outline map of Canada:** Noranda, Val d'Or, Kirkland Lake, Sudbury, Porcupine, Steep Rock, Flin Flon, Thompson, Lynn Lake, Uranium City, and Yellowknife. How do these cities compare in size and national importance with the cities along the St. Lawrence Seaway? What factors prevent/impede industrialization? What are the major functions of these cities? What factors contribute to the close working and trading relationship between Canada and the United States?

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Society for Visual Education, Inc., 1345 Diversey Parkway, Chicago, Ill. 60614.

The United States
Your Home in America
Northeastern United States
The South
The Middle West
The West
The Pacific Frontier States: Alaska and Hawaii
Canada: Regions and Resources

Young America Films, Inc., 18 East 41st Street, New York 17, New York.

The United States: A Regional Overview
The Northeast

UNIT XIV ANGLO-AMERICA

The Appalachian Highlands
The Atlantic Plain and Piedmont
The Great Lakes Region
The Gulf Plains
The Central Plains
The Plateau Region
The Pacific Coast Region

Encyclopaedia Britannica Films, 1150 Wilmette Avenue, Wilmette, Ill. 60091.

Canada's North—Introduction
The Caribou Eskimo
The Gasoline Age
The Steam Age
The Yukon
The Modern Eskimo
The Mackenzie River
The Arctic Islands
Eskimo Sculpture
Eskimo Prints
Fishermen of Nova Scotia
Villages in French Canada
Farm and City in Ontario
Wheat Farmers of Western Canada
Vancouver and the Western Mountains
Logging in Canadian Forests

Coronet Films, 65 South Water Street, Chicago, Illinois

Inventions in America's Growth 1750-1850
Inventions in America's Growth 1850-1910

Consulate General of Canada, Film Library, 310 South Michigan Avenue, Chicago, Ill 60604.

Angotee—Life of an Eskimo
Big Z—Uranium Search in Algoma District of Canada
Canada: Landform Regions
Down North—Progress Report on Developments in Mackenzie District
Fraser River
Great Lakes—St. Lawrence Lowlands
Kitimat Story—Aluminum Refining
Iron from the North
Land of Beautiful Furs
Log Drive
Story of the St. Lawrence Seaway

UNIT XV
GEOGRAPHY IN CONSERVATION

UNIT XV

GEOGRAPHY IN CONSERVATION

Suggested Time: One Week

RATIONALE

"Geography is applicable to the teaching of conservation since it deals with practically all of the natural resources. The student should learn to look upon resources as valuable gifts of Nature, and learn that Man is responsible for their proper use and future supply. Each resource should then become something which is necessary. The source of the supply, and whether the supply is adequate and permanent, should become a matter of great concern to him as he learns that he has a real stake in conserving the resource."[1]

"Students at the senior high school level should be given opportunities to observe, analyze, interpret, and synthesize various aspects of geography. These experiences can contribute in various ways to their education, namely, enrichment of development of increased power with geography tools and habits of research, and an arousal of a greater sense of his responsibility for the welfare of places and peoples in given regions of the earth."[2]

"If conservation permeates our educational programs, we may have an ever-increasing number of self-disciplined citizens, cognizant of the value of the natural resources, sensitive to their misuse or abuse, and able to work together in a democratic manner to effect programs of conservation. This is essential to the preservation of human welfare, to the perpetuation of our nation's strength, and to the maintenance of its military potency. The permanency of our civilization and the progress, stability, and destiny of our nation are vitally related to the degree to which this challenge is met. For conservation education of all the citizens is imperative. The ultimate success of any conservation program is greatly dependent upon public opinion; and public opinion is created thru education."[3]

GEOGRAPHY IN CONSERVATION

The major goals of this section are to: (1) show that human existence depends on the use of resources, (2) that these same resources are expendable unless used wisely in conjunction with increasing technology in conserving and finding new substitutes, and (3) that man is responsible for their care, wise use, and new technological development of substitutes.

CONCEPTS

I. Human life requires the use of resources.

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[1] William W. Ritz, **USDA Journal of Geography,** Vol. 46, pp. 277-284 (September 1947).

[2] Wilhelmina Hill, **Curriculum Guide for Geographic Education,** National Council for Geographic Education, 1963.

[3] Halene Hatcher, **Journal of Geography,** Vol. 48 (January 1949), pp. 20-27.

II. Expiration and/or deterioration of certain resources is definitely possible.

III. Conservation technology will replace or extend our resources.

IV. Man, the chooser, makes the ultimate decision as to his resource use for his wants and needs.

Concept I

Human life requires the continuous use of resources.

Content

Water, soil, and air are the basic resources upon which life depends. Man-made combinations of certain elements found in these basic resources have given rise to higher living standards by industry.

A. **All life requires water.** Life stops in the absence of water. Plants and animals can survive hunger much longer than thirst, and water can revive them when food fails. Without water they starve amid plenty.

Water operates a wholesale "pick-up and delivery" service upon which life depends. Water is the bloodstream of nature. Water, charged with nutrients from the soil it helped to form, delivers those foods to the plants.

There is a significant distinction between water and useful water. Time, place, and quality lend it a resource value. Clear, clean water on the land is an asset almost anywhere.

Learning Activities

Construct a model of the "Pyramid of Life" which illustrates that man is at the apex of the pyramid because of the soil, water, plant, and animal life which support him. Also, depict how man is responsible for keeping this structure intact.

Take students on a field trip to trace the local water supply from source to outlet.

Take students on a field trip to observe water pollution.

Use strings and models (or pictures) to construct a "Web of Life" which contains soil, water, plants, several species of animals, and man. Emphasize man's dependency and his role within this web.

B. **Man is dependent on soil.** Soils or earth materials are the foundations of our worldly goods; a basic wealth upon which our existence depends. From them come nearly all the food we eat, much of our clothing and shelter, and most of the materials for our comfort, convenience, and pleasure.

UNIT XV GEOGRAPHY IN CONSERVATION

Learning Activities

Develop the idea of interrelationships and interdependencies between man, birds, animals, plants, and the soil that supports them all.

C. **Air is the breath of life.** Air is a circulating medium by which plants, animals, and man are given quick access of fresh supplies of oxygen and immediate release of toxic poisons through inhalation and exhalation of some type.

Air is also the medium by which moisture is conveyed from oceans to land. It is a stabilizer of temperature in that it acts as an insular blanket around the earth. This blanket modifies the heat of the sun by holding life-sustaining temperature within its atmosphere or sphere around our planet.

Learning Activities

Using plants, perform an experiment by denying one of the basic elements — water, soil, or air — and record the results.

Discuss or speculate on what the temperature of the earth would be without an atmosphere.

D. **The utilization of resources — influences man's standard of living.** Standards of living develop as man's uses of resources are developed. A simple use of resources results in simple economy.

As a culture develops, the use of simple resources is enlarged and man discovers new resources through new uses.

Industrial revolutions emphasize quantity and speed of production, often with the accompanying result of exploitation of many resources.

Learning Activities

Determine the relationship between standard of living level and the use of resources. Examples: Water for power to turn wheels, coal for steam engines, petroleum for internal combustion engines, hydro-electricity, and fissionable materials.

Study resource relationship to early human settlements:

Sumerian — Mesopotamia, Tigris, and Euphrates areas. Basic resources were abundant.

Egyptian — Nile river area. Basic resources were abundant. Which were considered basic? How were they used?

Study the human relationship to a natural resource — The interpretation of the existence, value, and utility of a natural resource in terms of the cultural achievement of a society.

Concept II

Expiration, and/or deterioration of certain resources is definitely possible.

Content

Some resources, once used, cannot be replaced and are, therefore, exhaustible. These include coal, petroleum, and natural gas.

Some resources, though perpetual, may be polluted. These include falling water, sea water, and air (quantity, but not quality).

There is no more water today than in pre-human history. **Seventy percent** of that which falls to or toward the earth, returns to the atmosphere. **Twenty-eight percent** travels to the sea and becomes saline. **Two percent** is used by mankind.

Air pollution is caused by particulates which are the dirt, grime, dust, corrosion, odor, visibility reducers and holders of gases. Gases — carbon monoxide, sulphur dioxide, nitrogen oxides — do not settle out; they become part of the air itself.

Some resources are replaceable only by careful planning. These include forests, wild life and recreation areas.

Great nations of the past have exhausted their resources. Babylon, once a world empire, failed to conserve its soil by deforestation. Cutting of trees and protective cover allowed the soil to erode.

Tarsus, ten miles inland, because of over-extending its delta, lost its position as a seaport.

Spain once owned half of the world but forgot the basic needs of life. It played the gold market and forgot the green market.

Learning Activities

Make graphs to show how many years our known supply of coal, petroleum, and natural gas will last based on current and expected use.

Effects of water pollution: Depict some of the harmful effects of water pollution upon aquatic organisms. How is polluted water related to human health and recreation?

Visit a forest tree nursery. Why is it necessary to have tree nurseries? Visit a state or national park. Try to discover their method of reforestation.

Make reports on why countries like Mesopotamia, Egypt, Assyria, and Spain failed to maintain status as world powers. (Relate to use of resources.)

Take a field trip to observe soil erosion or its consequences.

UNIT XV GEOGRAPHY IN CONSERVATION

Concept III

Conservation technology can replace or extend our resources.

Content

Proper soil conservation methods hold the soil in place, maintain or improve its health and fertility, and increase its capacity for sustained production.

Water conservation intercepts the water that falls upon the land as rain or snow, regulates its movement, and gains maximum benefits from it within the limits of replenishment.

Air pollution control is vital to the health and longevity of man and the conservation of all properties affected by contaminated air.

Minerals, being consumed by use, are conservable only as diligent search, through extraction and efficient employment, increase the available supplies and prolong their usefulness.

Forest products and forest influences are indispensable to our American culture. Forest conservation perpetuates our abundance of timber and magnifies the beneficence of forests.

Conservation of recreational, scenic, and historical resources is vital to preserve our mental and physical health and our national landmarks.

Learning Activities

Visit a well-managed farm or ranch. What soil conservation method is practiced?

Land use practices: Compare good to poor.

Bare spots and any eroding areas should be considered invitations for a conservation class to apply suitable soil conserving measures.

Beautification of the school ground by planting trees and shrubs or sowing grass can be excellent learning experiences.

Study conservation possibilities for developing world's empty lands:

> Arid lands—lacking in simple resources, little or no water, alkaline soil.
>
> Polar lands — soil frozen — cannot be used. Not a resource.
>
> Ocean surfaces — no soil at convenient depths. Water is not a resource unless usable — too saline.

Take a tour of a sewage treatment plant.

Visit a "hydro" development for power, irrigation, flood prevention, etc.

Farm pond: Compare well managed to poorly managed. Have students make a list of the criteria by which to judge this comparison.

Estimate the cost of diseases which may be caused by air pollution.

Discuss: What a life is worth; what health is worth.

In what way is air pollution today similar to the need for forest control in the early part of this century?

Visit a smelter, flotation plant, or other mineral concentration establishment.

Exploratory Questions

Who is responsible for conserving resources?
Should conservation be voluntary or compulsory?
Do we owe the next generations anything?
What raw material is used by a nearby factory?
Will this factory have to change sources within 100 years?

The planting of forest seedlings as a school project can be specially recommended both for humid regions (tree plantations) and for dry regions (windbreaks and shelter belts).

Visit a nature area, wildlife refuge or wilderness.

Visit a fish hatchery or game farm.

Study the aesthetic values of natural outdoor areas.

Strip mining: Contrast the benefits derived with the damage caused. After strip mining, demonstrate the possibilities of reclaiming abandoned strip mining areas for wildlife habitat and recreation.

Concept IV

Man, the chooser, makes the ultimate decision as to his resource use for his wants and needs. His decision may not always be correct when related to his descendants.

Content

Foolish choices of resource use are caused by:

Nearsightedness—ability to see only the present,

Greed—vain desire to create wealth at any expense,

Ignorance—lack of understanding consequences of misuse,

UNIT XV GEOGRAPHY IN CONSERVATION

Individualism — lack of cooperation with those whose help is needed to conserve resources.

Man can make wise choices only when through knowledge and research he is able to compare supply with demand; immediate with future needs; and all possible alternatives. There is often a conflict of interest which must be resolved.

Wise choices on use of resources are based on:

Man's acceptance of his responsibility to act wisely in using his environmental heritage.

The ability to see cause and effect relationships.

Foresight to think and plan in the interest of mankind, both present and future.

Cooperation which will create an effective control over resource use to insure optimal conservation.

Ability to teach accrued knowledge to the young in order to accumulate benefits through more than one lifetime.

The ability to legislate, where necessary, those laws which compel man to save his environment.

Cost is a factor in choosing:

Dollars or death in pollution decisions.

Long range cost for future generations.

There are regional differences in choice. Needs may differ in importance with different regions:

United States — Anti-pollution problem

India — Food problem

By advancing our knowledge of resources and using them accordingly, we can progress and prosper through ages to come. Man makes a choice whether by keeping silent or in active support of every political act which affects the use or nonuse of a resource.

Learning Activities

Study the relationship between supply and demand of a resource. The choice made by the buyer causes the seller to use certain resources.

Study what causes surpluses of any commodity.

Who has the responsibility for planning the use of the ocean's resources?

Study rural versus urban sprawl. Illustrate the necessity of protecting high quality cropland from urban development.

Show how a vote for certain conservation practices is making a choice in the use of a resource.

Study how national decisions are really the sum of individual choices.

Attempt to find substitutes for common resources.

Study cultural trends, large versus small cars, etc.

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Can the Earth Provide? 28 min. BW, McGraw-Hill
City Water Supply. 16 mm. BW, 10 min. Encyclopaedia Britannica.
The Constant Quest. 16 mm. Gulf Oil Corp. (Research to conserve)
Energy from the Sun. 16 mm. BW., 11 min.
The Global Struggle for Food. 28 min., BW, McGraw-Hill
Man and His Resources. 28 min., McGraw-Hill Text-Film Division
Work of the Atmosphere. 16 mm., BW, 11 min., Encyclopaedia Britannica
The World and Its Wonders. Plate No. 1 (Picture and discussion portfolio), American Petroleum Institute.

Other Sources of Information:

Conservation Transparencies. Hammond Inc., Educational Division

County soil map from county agriculture agent.

Missouri Department of Conservation, Education Section, Jefferson City, Missouri

UNIT XV GEOGRAPHY IN CONSERVATION

Missouri Geological Survey and Water Resources, P. O. Box 250, Rolla, Missouri

National Wildlife Federation, 1412 16th Street, N. W., Washington, D. C. 20036

Photo posters on water conservation and water pollution. J. Walch Publisher, Portland, Maine 04014

Professional journals related to conservation

Trees can often be obtained free from county agent.

UNIT XVI

GEOGRAPHY IN PLANNING

UNIT XVI

GEOGRAPHY IN PLANNING

Suggested Time: One Week

RATIONALE

America's settlements, urban and rural, have been changed tremendously by the rapid changes in technology and ways of living in this century. Agricultural land with its farms and orchards has become suburban subdivisons and new shopping centers almost overnight. The change has often been sporadic. Proper and adequate santiation, education, recreation, and protection have often been sacrificed through lack of coordinated intelligent forethought. If the earth is to carry its passengers safely, it must plan the use of its land.

The geographic skills of mapping, plotting, and measuring distributions of people and their needs may be used effectively in planning. The geography of relief, climate, resources, and population should be analyzed in regard to planning optimal use of whatever potential exists.

Geography points the student toward a variety of promising careers in planning. The future is bright for those students who may aspire to positions of planning engineers in many fields both public and private.

A study of geography and its relation to planning should include certain fundamental concepts along with their supportive subconcepts and data. These concepts are stated on the following pages. The suggestions and helps in this guide should be supplemented by the ingenuity of the teacher. These are not intended to be conclusive. It is hoped that they will inspire the teacher to use his own skills and methods to effectively teach this section.

We live in a world which has grown by and large without planning. Now, increasingly, we are seeing the need for planning which is going on in proliferation at all levels. The geographer can contribute to intelligent planning.

This unit deals with practical application of geographic skills and techniques to the ever increasing need for planning. It also points out how geographic understanding of land features and man/land relationship can contribute to planning by giving scope and depth to research, analysis, and procedures.

CONCEPTS

I. The techniques and skills of geography have an important role in planning.

II. Understandings in geography give the geographer-planner a spatial view of planning needs.

Concept I

The techniques and skills of geography have an important role in planning.

Content

Planning requires the use of map skills. Since map making has always been the child of geography, it is here that a direct relationship between geography and planning exists.

Map skills are effective in giving objective measurements as to what otherwise might be inexact attitudes and opinions in the minds of the public. A map will give a positive approach to a problem that otherwise might be a battle of opinions.

The use of map skills usually falls into these areas:

Plotting of land use
Plotting of human settlement
Plotting of plans
Reduction of problems to numbers and graphs
Visual represenation of problems

Any survey of land uses can best be plotted on a map. A map will give an over-all view of the various land uses in comparison to each other.

Planning often requires the study of physical land features. Training in geography is an invaluable aid here. It is often important that physical land features be studied as a base for any future use of the areas. It is often necessary to know the type of bedrock that may support a high-rise building. It is important to know the permeability of the soil and rock structure before an impoundment of water should be attempted.

It is equally important to know the contour levels of the land in order to know how far reaching a proposed dam may back its water. It is important to know the quality of soil before a proposal for soil uses can be successful. Erosional possibilities, natural drainage, and water potential should be examined in light of whatever is planned for future use.

The study of physical features may center around:

Size—delineation
Shape—potential
Location—climate
Landforms—strengths, weaknesses
Soils—supporting strength, sub-soils, bedrock
Water—amount, type prediction

Planning requires the study of man/ land relationships. Man changes in his use of the land. This change must be predicted if the planning is to be effective. A study of the immediate past is very important as an analysis of current trends and possible future projections. A typical example of this is the increase of movement from rural to urban living in the last five decades. The trend toward the use of recreational facilities by those who have leisure time could greatly influence the setting aside of certain areas for recreational and scenic uses.

Geographic Research: Select a large plot of land of several acres or several square blocks in your school district and walk an intensive survey which includes the following topics:

The current use of the land.
Alternative uses of land.
Factors which affect the use of the land.
Current trends and their projections.
Factors if changed, and their effects.

Learning Activities

Make a map of the school district or obtain copies.

Plot the land uses within the school district or some other specific area. Color business areas, residential areas, and industrial or farm areas differently. On another map, give different colors or hachure marks to the attendance areas of different schools.

Plan an ideal recreation area for a certain number of families and children.

A whole series of map studies is often necessary in order to show contrast between what exists and what is planned.

Study Alaska as a planned purchase.

What relationship exists between the geography of Missouri and Bagnell Dam? What part could a well-trained geographer have in planning such a project?

Make a study of a "ghost town." Why did it die?

Study some business location which is no longer on a main thoroughfare. Why did the traffic change to another street? Or, why did the street or highway change?

Make a report which shows a projected need for schools, factories, cars, or highways. Support idea with charts and graphs.

Plan a new subdivision of houses complete with shopping areas, streets, parks, etc.

Plan a model city with provision for traffic and parking as well as living and working areas.

Plan a parking arrangement for school events.

Concept II

Understandings in geography give the geographer-planner a spatial view of planning needs.

Content

Planning with a world view usually addresses itself to problems of production, distribution, and consumption of food. An understanding of geography gives intelligent insight into the complexities of this problem and aid in guiding the world toward a solution.

Planning with a national view concerns itself with distribution of population, industry, urbanization, recreational areas, resource use, and health. Geographic knowledge and skills aid the planner with determining pre-trial information about distance, potential, physical limitations, and cultural trends.

Planning with a regional or an urban view is occupied with problems of population growth, zoning laws, sanitation, education, hospitals, streets, and recreation. Skills in geographic research, statistical analysis, and prediction of cultural trends are most needed here.

The study of comparative advantage should be part of geographic instruction. To illustrate, should a particular parcel of land be used for a dairy farm, a highway cloverleaf or a supermarket? Should a river be used for fishing, power production, navigation or sewage disposal? Decisions like these confront citizens constantly. Some training in making evaluations is mandatory.

Learning Activities

Have a report or panel discussion on the goals of the Food and Agricultural Organization of the United Nations. Note how many times an understanding of geography gives insight into its problems of decision making.

Should river development be a national project and why? Explain. In what ways are National Parks the result of good planning? What were the Hamilton vs. Jefferson views on national roads?

Make a study of recent projects in your own city or state and determine who was responsible for them.

Discuss the advantages and disadvantages of responsibility for planning resting on a composite or combination of urban, rural, suburban, and national planning board.

Advantages:

Problems relate to all.
Wider base for help.
Long-range benefits.

Disadvantages:

Difficult to reach agreement, variety of interest.
Lack of interest unless directly affected.
Dilution of effects.

Discuss how urban planning can meet the following problems:

Population growth, industrial needs, sanitation, streets, recreation, schools, hospitals, etc.

Study why streets run straight in some areas and not in all areas of a city.

Make a chart or bulletin board arrangement for air or water pollution control and show who must cooperate to put it in effect.

Determine and define optimal land use in terms of dollars, health, and long-range benefits. Are the results the same? If not, why not?

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Books

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Crowe, Philip. **The Empty Ark.** New York: Charles Scribner's Sons, 1967.

Garnier, B. J. **Practical Work in Geography.** New York: St. Martin's Press, Inc., 1963.

Gottman, J. and R. A. Harper. **Metropolis on the Move—Geographers Look at Urban Sprawl.** New York: John Wiley and Sons, 1967.

Paddock, William. **Famine 1975.** Boston: Little, Brown & Co., 1967.

Senior, Derek. **The Regional City.** Chicago: Aldine Publishing Co., 1966. (An Anglo-American discussion of metropolitan planning.)

Tannenbaum B. and M. Stillman. **Understanding Maps.** Manchester, Missouri: McGraw-Hill Book Company, 1957.

Maps and other Resources

"Maps for Advanced Study," Maplewood, New Jersey: The Geographical Press, Hammond, Inc.

Maps of school district should be available through office of the superintendent of schools.

Map of county or area.

Data from county, city, or State Planning Commission.

School records of attendance and participation in sports, etc.

Booklet, "Maps, Engineering, Surveying", PL 53 Superintendent of Documents, Washington, D. C. 20402.

Missouri Division of Commerce and Industrial Development, Jefferson City, Missouri

Use of a guest lecturer who has helped build runways in military zones.